DOCUMENT RESUME

ED 160 643 TM 007 796

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TITLE Development of a Sex Knowledge and Attitude Test for the Moderately and Mildly Retarded. Final Report.
PUB DATE 77
NOTE 97p.; Not available in hard copy due to marginal legibility ; Best copy available

EDRS PRICE MF-$0.83 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Adults; Attitudes; *Attitude Tests; Dating (Social); Females; *Institutionalized Persons; *Knowledge Level; Males; *Mentally Handicapped; Normalization (Handicapped); Sex (Characteristics); *Sexuality; Test Construction; Test Reliability; Test Validity
IDENTIFIERS *Socio Sexual Knowledge and Attitudes Test

ABSTRACT

The Socio-Sexual Knowledge and Attitudes Test was designed to measure the attitudes and knowledge of retarded individuals in fourteen areas: (1) anatomy/terminology; (2) dating; (3) marriage; (4) intimacy; (5) intercourse; (6) pregnancy, childbirth and childrearing; (8) masturbation; (9) homosexuality; (10) alcohol and drugs; (11) community risks and hazards; (12) birth control; (13) venereal disease; and (14) terminology. Test items involved what was understood by the subject, whether the subject felt positively or negatively toward particular socio-sexual practices, and how much the subject felt he or she knew about the area. Pictures were used to call attention to socio-sexual areas and to illustrate multiple-choice answer options which subjects could point to in response to questions. The test was administered to 199 mildly, moderately, and severely retarded adults; 99 were residents in a state institution and 100 were living with parents or in group homes. Statistical analyses were conducted to establish the test-retest reliability, internal consistency, and validity of the instrument. Results indicated that women were more knowledgeable than men on items pertaining to menstruation, pregnancy, and birth control; and that institutional residents were the most positive with respect to marriage and parenthood. Institutionalized males were the least knowledgeable of the groups. Overall responses were stable for knowledge and attitude, but subjects were less certain about how much they knew. (Author/JAC)

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Final Report
H.E.W. Project G007500382

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DEVELOPMENT OF A SEX KNOWLEDGE AND ATTITUDE TEST FOR THE MODERATELY AND MILDLY RETARDED

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Nisonger Center
The Ohio State University
1977

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ACKNOWLEDGMENTS

The two individuals most directly responsible for this project's successful completion are Joel Wish and Katherine Fiechtl whose doctoral dissertations (both 1976) provided almost all of the information for this report. Wish developed the instrument with assistance from Fiechtl, and Fiechtl then used the test with some assistance from Wish to compare the knowledge and attitudes of two local populations of retarded individuals.

Development and large scale use of the test would not have been possible without the small grant assistance of the Bureau of Education for the Handicapped (Project #G00-75-00382) and the National Association of Retarded Citizens. Equally important, however, in view of the sensitive nature of the topic, was encouragement and cooperation from the administrators and staffs of the Franklin County Program for Mental Retardation, and the Columbus State Institute. In particular, the support and assistance of Dr. Robert Carl, Steve Pleasnick, Brian Haller, and David Presnall is warmly acknowledged.

We are indebted to many who assisted with advice or suggestions in early stages of test development. Among them must be mentioned the Council for Retarded Citizens; Charles Gerlach, Executive Director of the Council; Maxine Mays, Henry Leland, Katherine Kluss, Planned Parenthood, Inc., Jessica Hairston, Joan Gibson, John Bendekovic, Joanne Milburn, Gladys Hillsman, and John deJung. The tactical advice of consultant William Loadman has been invaluable throughout.

TABLE OF CONTENTS

	Page
Acknowledgement	i
List of Tables	iv
Chapter 1	1
Introduction	1
Statement of the Problem	1
Project Justification and Objectives	2
Review of Studies and Socio-Sexual Knowledge and Attitudes	4
Chapter 2	10
Test Development	10
Selection of Content Areas	10
Selection of Questions	13
Illustrations	15
Response Form	16
Scoring	16
Examiner Training	17
Pilot Trial	17
Use of Test	17
Samples	18
Adaptive Behavior Scale Ratings	19
Item Sampling Procedure	19
Testing Procedure	20
Client Consent	20
Chapter 3	22
Test-Retest Reliability, Internal Consistency, and Validity	22
Response Scoring and Coding	22
Reliability	23
Internal Consistency	27
Validity	30

	Page
Chapter 4	33
The Socio-Sexual Knowledge and Attitudes of Institutional and Community Residents	33
Results	34
Knowledge	34
Relation Between Knowledge and Adaptive Behavior Levels and Ratings	39
Attitudes	45
Relationship Between Knowledge and Attitudes	53
Relationship Between Knowledge and the Amount the Subject Felt He Knew	53
Chapter 5	58
Discussion	58
Introduction	58
Test Reliability	59
What They Know - How They Feel	60
Knowledge	60
Attitude	62
Relationships Between Knowledge and Attitudes and the Amount Subjects Felt They Knew	62
Sex Knowledge and Adaptive Behavior	63
Results Related to Others Findings	64
Summary and Conclusion	68
References	70
Appendix A	76
Social-Sexual Knowledge and Attitudes Questionnaire	77
Appendix B	81
F-Values for 2-Way (Sex by Residence) Analysis of Variance on Knowledge Items	82
Appendix C	88
Analysis of Variance Tables	89

LIST OF TABLES

Table		Page
1	Tabulation of Judged Importance of Socio-Sexual Areas	11
2	Test-Retest Agreement: Mean Numbe. and Percent Response Agreements for Knowledge Items (Type I)	24
3	Test-Retest Agreement: Mean Number and Percent Response Agreements for Attitude Items (Type II)	25
4	Test-Retest Agreement: Mean Percent Response Agreement for How Much Do You Know Items (Type III)	26
5	Percent of Type I Items in Subtest for Which Test-Retest Response Agreement ≥ 75 Percent	27
6	Item Reliability and Kuder-Richardson Coefficients for Type I Questions	28
7	Item Reliability and Kuder-Richardson Coefficients for Type II Questions	31
8	Means and Ranges of Ages and IQ's	35
9	F Values for 4 x 4 (IQ by Group) Analysis of Variance on Knowledge Items per Subtest	35
10	Significant Differences in Knowledge Scores in Relation to Differences in IQ Levels	36
11	F Values for 4 x 4 (Age by Group) Analysis of Variance on Knowledge Items per Subtest	37
12	F Values for 2 x 2 (Sex by Residence) Analysis of Variance on Knowledge Items Per Subtest	38
13	Number of Knowledge Items per Subtest on Which Responses Differed Significantly Depending Upon Sex, Residence, or Interaction of Sex and Residence	39
14	Mean and Percent Correct Scores of the Knowledge Items Per Subtest	40
15	Distribution of Adaptive Behavior Levels of Institutional Residents	41
16	F Values for 3 x 2 (AB Levels by Sex) Analysis of Variance on Knowledge Items Per Subtest	41

Table		Page
17	Significant Differences in Mean Knowledge Scores in Relation to Adaptive Behavior Levels	42
18	Pearson Correlation Coefficients Between Community Residents' Part I ABS Scores and Knowledge Scores per Subtest	43
19	Pearson Correlation Coefficients Between Community Residents' Part II ABS Scores and Knowledge Scores per Subtest	44
20	F Values for 2-Way (Sex by Residence) Analysis of Variance on Attitude Items	46
21	Percentage of Negative, Neutral and Positive Responses per Attitude Item by Group	48
22	Pearson Correlation Coefficients Between the 40 Attitude Items and the Knowledge Score per Subtest	54
23	Percentage of Know a Lot, Know a Little, and Know Nothing (Type III) Responses by Groups	55
24	Pearson Correlation Coefficients for Relationships Between Type III Items and Knowledge Score per Subtest	57

INTRODUCTION

Statement of the Problem

Recently there has been a marked change in what had been viewed as the potential for adaptive behavioral achievement of mentally retarded persons. A growing recognition that those with mental retardation are frequently capable of assuming independent or semi-independent functioning (Kennedy, 1968; Miller, 1965; Scriven, Straka and LaFond, 1971; Windle, 1962) has placed increasing emphasis upon the normalization concept. Normalization is the ideology and practice of "making available to the mentally retarded patterns and conditions of everyday life which are as close as possible to the norms and patterns of the mainstream of society" (Nirje, 1969, p. 181). For normalization to be truly comprehensive, socio-sexual adjustment of the retarded person must be considered. Strong trends in the direction of community living and away from institutionalization, along with greater opportunities for heterosexual contacts, have made the need for education and research in the area of sexuality and the retarded more apparent. In order for societal integration and normalization to be successful, particular concern must be focused upon the unique problems faced by retarded individuals in many aspects of their socio-sexual development (Vockell & Mattick, 1972). Indeed, rehabilitative emphasis has recently shifted from the earlier narrow concern for the retarded individual's vocational adjustment to a concern for his social, emotional and sexual competence as well (Floor, Rosen, Baxter, Horowitz and Weber, 1971; Meyen & Retish, 1971; Thaller & Thaller, 1973; Zisfein and Rosen, 1973). Such emphasis is in part due to a pragmatic concern for vocational productivity in view of studies showing that deficits in social-sexual functioning often lead to failure on the job and/or in the community (Begab, 1970; Floor et al., 1971; Saenger, 1960; Wolfensberger, 1967; Zisfein & Rosen, 1973). In part, this concern derives from a humanistic belief that the retarded should develop and nurture normal human relationships (Begab, 1958; LaVeck & de la Cruz, 1973; Nigro, 1975).

Sexuality is "an inherent characteristic of mankind existing at birth and extending throughout the life span" (Scarborough & Ortinau, 1973, p. 49). Successful sexual normalization of the retarded must

focus particular concern upon the unique problems facing this population. While the retarded generally experience the same basic emotions, sexual drives and needs as their "normal" counterparts (Bass, 1972; Bloom, 1969; Deisher, 1973; Gordon, 1973b, 1973c; Hall, Morris and barker, 1973; Johnson, 1975; Kempton, 1972; Kempton, Bass & Gordon, 1972; Meyen, 1970; Meyerowitz, 1971; Rubin, 1969) they frequently display greater difficulties in the discrimination and interpretation of experiences. This may contribute to confused, distorted or otherwise inaccurate socio-sexual conceptions (Begab, 1958; Gordon, 1973b; Rubin, 1969). Behaviors conditioned by and accepted within special environments (such as public masturbation or homosexual activity, often tolerated in institutions for the retarded) may be judged illegal, immoral or otherwise unacceptable by the society at large, and need to be modified prior to release into the mainstream (Rosen, 1972).

The dual recognition of the sexual nature of the retarded person along with his need for special intervention has led to a call for parents, educators and professionals to 1) acknowledge the human sexuality of all exceptional persons (Bass, 1970; Bidgood, 1974; Delp, 1972; Johnson, 1973, 1975; Nigro, 1975) and, 2) help the retarded individual develop an appropriate sexual identify, behaviors, and responsibilities. Yet, "not only the general public but even many professional people working with the handicapped, and certainly the parents and families of the handicapped" have frequently overlooked the sexuality of these persons (Nigro, 1975, p. 202). In the area of sexuality, "we have for the most part, been operating on the assumption that the less they know, the better off they are" (Gordon, 1973c, p. 5). Recently, spurred by research findings and the sometimes harsh realities of the de-institutionalization and normalization movements, professionals and parents have begun to accept the need for social-sexual education of the retarded (Johnson, 1975).

While mildly and many moderately retarded persons share with the non-retarded a desire to attain culturally normative roles including courtship and marriage (Gordon, 1973b; Whalen & Whalen, 1973) their preparation for adult roles, particularly marriage and sexual responsibility, remains inadequate. Today, many institutions still attempt to prevent sexual experiences more than to provide instruction (Bidgood, 1974; Kratter & Thorne, 1957). Affirming the sexual rights and responsibilities of the retarded also presents dilemma for the community where parents, schools and rehabilitation facilities have failed to provide necessary preparation and training (Begab, 1966; Bass, 1974; Goodman, 1972; Goodman, Budner & Lesh, 1971; Morgenstern, 1973a, b). The neglect of basic social-sexual instruction oriented toward clarifying the retarded person's misconceptions and lack of information, often based upon a denial of his sexuality causes heightened vulnerability to community risks and hazards.

Project Justification and Objectives

The need for an instrument to tap the socio-sexual attitudes and knowledge of retarded individuals has become increasingly apparent. In

planning a total program, it is important to learn of each individual's needs, potential, and informational discrepancies; we have an obligation to "think in individualistic terms rather than trying to make blanket statements about the sexuality of any particular group labelled mentally retarded" (Johnson, 1975, p. 29). Furthermore, society's expectancy of social maturity, in light of high social-sexual failure to adjust to community norms, more clearly points out the need for an instrument to assess socio-sexual knowledge and attitudes. A knowledge and understanding of the socio-sexual concepts and beliefs held by the retarded person would therefore serve as an important, firm basis for individualized remediation.

A search of the literature revealed few references to research related to the extent of knowledge and misinformation across the socio-sexual domains. Although "the knowledge and techniques necessary for insuring that retarded individuals learn the basic facts about social and sexual functioning" existed (Whalen and Whalen, 1973, p. 226; Fischer, Krajicek, and Borthick, 1973; Hall, Morris and Barker, 1973), there was no reliable instrument for tapping information, misinformation and terminological confusion.

In thinking about the sort of instrument that was needed and the uses to which it might be put, the following criteria were adopted:

1) The instrument must use a standard procedure to determine what the retarded person knows and does not know about crucial areas of socio-sexual practices;

2) The instrument must provide some measure of insight into attitudes and feelings about various sexual practices;

3) The questions must be phrased so that they can be understood by the retarded; and

4) The information about knowledge and attitudes must be obtained from essentially non-verbal responses.

A test which fulfilled these criteria would be useful in a number of ways. Educators could use it to determine what needed to be taught and to gauge the effectiveness of a training program in imparting information and changing attitudes. Social workers and counsellors could use the test in working with retarded persons and their parents, who are often ignorant of the extent of their child's sexual knowledge and unable to communicate directly with the child. As a research tool, such a test could be used to investigate relationships between attitudes and actual behavior and determine whether sexual ignorance and confusion are predictably related to vulnerability and/or sexual acting out.

Based on the above considerations, the following objectives were set for the project:

1) To develop an instrument for reliable sampling of the socio-sexual knowledge and attitudes of mildly and moderately retarded individuals, which could be used even by subjects with poor expressive language.

2) To use the instrument to determine if there are differences between retarded men and retarded women and if there are differences between institutional and community-based residents with respect to socio-sexual knowledge and attitudes.

3) To identify differences in extent of knowledge and differences in attitudes with respect to different socio-sexual areas.

4) To determine whether adaptive behavior[1], domains or levels, levels of IQ, or chronological age were related to extent of knowledge or to attitudes.

5) To determine what relationship would obtain between the amount of knowledge a subject felt he possessed and the actual accuracy he revealed with respect to the topic.

Review of Studies of Socio-Sexual Knowledge and Attitudes

Bloom, in 1969, questioned 65 high school students half of whom were emotionally disturbed, the other half of whom had physical disabilities about sexual matters. He hypothesized that several factors relating to deprivation of a variety of stimuli, including "consensual validation of ideas" (p. 364) from peers and teachers, contributed to their lack of sex knowledge in comparison to "normal" adolescents of the same age.

In a paper discussing the sex education of children with learning and emotional disorders, Farley and Goddard (1970) reported that the acquisition of accurate knowledge of the functions and structure of the human body seemed hindered by anxiety-producing mistaken notions about sexuality and body parts.

Thorne (1957) reported on instruction and discussion sessions, in a North Carolina training school for the retarded, with female residents ranging from 12 to over 50 years of age, as part of a sex education program in the home economics department. The females expressed interest in talking about dating manners; indicated a strong preference to going steady with their boyfriends because of the feeling of

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[1]Adaptive behavior refers to the behavioral domains included in the Adaptive Behavior Scales (Nihira, Foster, Shellhaas & Leland, 1969). An individual may receive a set of ratings -- domain scores -- or he may be assigned a "level" -- mild, moderate, severe, profound, derived from the overall picture.

security which it gave them; generally agreed that sexual intercourse before marriage was not acceptable behavior; reacted without embarrassment to the topic of menstruation; showed an intense interest in the birth of a baby and how it occurred; and asked many questions about sterilization. Hygiene and menopause were also discussed. Because the North Carolina law required sterilization for those with IO's under 70, the staff attempted to rationalize or explain sterilization by stressing the tremendous responsibilities involved in raising children. Despite that effort, some of the women retained the desire to have their own children. It seemed, however, that many of the discussion conclusions reached were strongly influenced by attitudes of the staff members involved in the group.

Rosen (1972), reported on the results of an informal sex knowledge questionnaire administered to a small number of institutionalized males and females. His respondents had little understanding of the technical and socially polite terms. Slang terms were fairly accessible to males but not to females. In the realm of physiology and anatomy, however, they were aware of little more than gross differences between the sexes. Misconceptions and misunderstanding about masturbation, menstruation, marital responsibilities and sexual roles were apparent. Rosen concluded that the retarded are, in general, "slow learners of sexual physiology and anatomy" (p. 102) and that the sexual knowledge available to them is "either inadequate, distorted, or both." (p. 102) Rosen commented that differences were apparent between the psycho-sexual development of persons reared in institutions as against those who remained in normal family environments; the "institutional personality," (involving proclivities toward over-compliance, lack of assertiveness, helplessness, and unacceptable behavior), presumably having developed as a product of institutional rules and regulations.

Gebhard's interviews (1973) with 84 white males (IQ's 31 to 70) residing in prisons or institutions for the retarded indicated that those subjects had an early awareness of coitus (median age 10), the relationship between coitus and pregnancy (median age 11), and actual experience with coitus (median age 14). Knowledge of pregnancy had a median age of 11 years. On the average, knowledge of coitus and pregnancy was about the same for a control group at the same socio-economic level, but with normal IQ's. Among the retarded, however, were more cases of extreme ignorance or belated acquisition of knowledge. Most subjects named their peers as their source of information about sex; only five named a parent, and none named a teacher or clinician. A lack of professional or parental instruction about sexual matters has been similarly reported by Gordon (1973a).

Andron and Sturm (1973), reporting on a study of 12 mentally retarded couples who were married, indicated that the concept of engagement was misunderstood. The couples thought that engagement was the length of time that they had known each other. Most of them reported that they had married for companionship. Most wanted children, but because of sterilization, genetic problems, and so on, decided to adopt children,

or to have pets. Nine of the 24 individuals had been in trouble with the police, some for sex-related reasons, which seemed a consequence, mostly of suggestibility, vulnerability, and ignorance of the law.

Incorrect terminology, false information and general confusion regarding many sexual topics were noted in several recent studies (Gordon, 1972a; Rostafinski, 1972; Whalen & Whalen, 1973).

Gordon (1972a) reported that a group of mentally retarded and cerebral palsied persons understood only a few of the sex education concepts which had been presented to them.

Rostafinski (1972) discussed subjects related to sex with retarded persons, some residing in institutions and others attending community sheltered workshops. He reported prevalent misconceptions and lack of knowledge about dating, marriage, prevention of pregnancy, family planning, venereal disease, and homosexuality.

Interviews of two mentally retarded females in a state hospital were reported by Whalen and Whalen (1973). The young women were in their early twenties with IQ's in the 50 to 70 range. They both exhibited incorrect labelling of anatomy, false information, and general confusion about sexual matters (p. 226). If they did not know an answer, they made up a logical answer which usually was incorrect. It seemed that they held expectations for fulfilling adult roles, but lacked the component knowledge and skills necessary for interpersonal achievements. The authors hypothesized this lack of knowledge was due to their few opportunities to discuss sex and to receive corrective feedback.

Wish (Edmonson and Wish, 1975) interviewed 18 moderately retarded men, ages 18 to 30, who had spent their lives in an institution, but had recently been placed in group homes in the community, to determine what they understood about dating, engagement, marriage, intercourse, pregnancy, childbirth, masturbation, homosexuality, drunkenness, and body terminology. In these interviews, the subjects were asked questions about a series of pictures, each representing one of these socio-sexual areas. Answers were probed until comprehension or error was revealed. Responses were then analyzed to determine the extent of each person's comprehension on four levels: spontaneous central comprehension (a correct interpretation of a relationship essential to the depicted situation without probing); central comprehension after probing; pure description (concrete description of some portion of the scene, but without grasping its social meaning); and error. Conceptual comprehension scores (the sum of spontaneous and probed central comprehension) correlated significantly ($p < .05$) with ratings of the subject on Adaptive Behavior Scale (ABS) (Nihira, Foster, Shellhaas, and Leland, 1970) domains of socialization, language, and responsibility. The population of moderately retarded males differed markedly with respect to socio-sexual knowledge, the most accurate respondent giving correct responses to 65 percent of the twenty concepts, the least accurate to only 10 percent. The median was 28 percent correct. Because scores for

body terminology responses were found to be inversely correlated with ABS ratings, it was concluded that a "test of body terminology is not the equivalent of a test of inferential comprehension of sexual activity" (p. 179). From examination of the errors, it was also concluded that although institutional residents were capable of gaining an understanding of human anatomy and sexual behavior, the concepts they acquired were mixed with error and confusion.

In a study reporting sexual knowledge of mentally retarded adolescents, Hall, Morris and Barker (1973), compared parents' perception of knowledge and attitudes, to actual knowledge, as determined by the authors' experimental test. The subjects were 61 male and female mentally retarded or learning disabled students at the University of Alabama University Affiliated Facility. The age range was from 10 to 25 and the IQ range was 41 to 95 (mean 66.6). The authors utilized a questionnaire consisting of three types of questions: 53 multiple choice questions and 20 true/false attitude statements designed to obtain information about individual's self esteem. The authors report that subjects with higher MA, CA and IQ had higher knowledge scores and that MA and CA scores significantly correlated with sex attitudes. Adaptive behavior levels correlated negatively with all three types of test measures. The subjects were correct on over half of the knowledge questions, but were least accurate with respect to the areas of conception, contraception and venereal disease.

As social class, race and religion were found not related to test performance, Hall Morris and Barker concluded there is a need for sex education of community residents in all "strata of society" (p. 708).

In a follow-up study, seeking a comparison between non-institutional and institutional residents, Hall and Morris (1976) extended their earlier questionnaire, with minor revisions, to an institutional population. In this study, they tested 105 institutional adolescents with IQ's ranging from 41 to 95. For reasons of response bias and failure to respond, 44 persons were dropped from the study. The researchers report that institutionalized subjects were higher than the non-institutionalized subjects in mean correct score on sex knowledge questions only, with no significant differences between the non-institutionalized groups on self concept or on sex attitude questions. Fewer than half of these subjects were able to identify venereal disease, family planning and birth control, and fewer knew the purpose of or details involved in sterilization.

The Hall & Morris research addresses some important questions about the sexual knowledge and attitudes of the standards. However, scores were based solely on verbal responses, an area in which the retarded frequently have problems (Johnson, 1973; Morgenstern, 1973a; Scarborough and Ortinau, 1973; Fischer and Krajicek, 1974a). Test-retest reliability for the instrument has not been reported, nor has information been published indicating whether males and females responded similarly. As more than 40 percent of the institutionalized

subjects they tested had to be dropped from their samples and as the IQ's of these disqualified persons were lower than the non-disqualified group, the test seems to be of limited usefulness with persons having IQ's below, perhaps, the level of mild retardation.

Fischer, Krajicek and Borthick (1973) developed a guide "based on the premise that the first and most important approximation of making available sound sex education for the mentally retarded... person is to talk to him or her" (p. 1). Their guide includes a set of questions covering a range of topics reflecting broad areas of sexuality. Simple line drawings accompany these questions. The authors found that their clients, at times, more "readily respond to the pictures rather than to specific questions being asked" (p. 1). Fischer, Krajicek and Borthick's method is a noteworthy first step toward the development of a standard procedure for finding out what retarded persons know and do not know about sexuality. Unfortunately, the authors make no effort at categorizing the many possible responses to the interview questions. They also report that their questions and pictures are likely to be inadequate for reaching the ceiling of interest and knowledge of some TMR clients. This would be especially true of the mildly retarded population as well as persons over 18 years of age as neither were included in their research.

Fischer and Krajicek (1974a) later reported the results of taped direct interviews of sixteen trainable Chicano, Anglo, and Black mentally retarded youngsters (CA's 10 to 17; mean IQ, 46.8) enrolled in a metropolitan school. The children were interviewed while their parents observed; the goals of this research were to elicit the children's level of sexual information and to assess the parents' attitudes, concerns, and awareness of the children's sexuality. Using pictures and drawings, the experimenters asked questions in the areas of sex role identification, body parts, elimination, menstruation, pregnancy, masturbation, intimate interpersonal behavior, and childbirth.

They found their subjects generally willing and able to verbalize their knowledge.

> The expectable embarrassment and reluctance to respond was present but there was also a genuine interest in finding out more and in learning terms that were unfamiliar (p. 9).

The results of this investigation were reported primarily as percentages of appropriate responses, so judged by the authors. The males were generally more knowledgeable than females across most areas, one half or more having acceptable terminology for what was depicted. Knowledge of the names of body parts was generally higher for both males and females than was knowledge about sexual situations such as masturbation and intercourse. The children were highly accurate in recognizing picture of a pregnant woman, although their knowledge of how long the fetus must grow prior to birth was inaccurate.

The parents learned from the observations that their child could appropriately tolerate and effectively participate in discussions of sexual matters.

2

METHOD

The development of the instrument, the procedures followed in training examiners, and a description of the procedures followed in obtaining samples from the populations to be tested are presented in this chapter.

Test Development

Selection of Content Areas

Sexuality has been defined as somewhat more than just genital contact and something less than the entirety of human behavior (Edgertor, 1973). Clearly this definition was too broad for our purposes since we could not hope to include the entire range of human sexual behavior in our study. So the question asked was not "What is sexuality?" but "which areas of socio-sexuality behavior shall we sample?" Several approaches were used to make this determination. The literature was searched for references to problematic areas and these were included on a preliminary list which was then circulated among a number of people who were involved with the retarded. The socio-sexual areas covered by the experimental instrument were selected on the basis of the literature search, the response to the survey, and the investigators' own experience in this area.

Existing sex-educational curricula and publications, including those designed for the retarded as well as those developed for the non-retarded, revealed that the following topics were considered to be important for minimally adequate training in human sexuality: Anatomical, and role differences between males and females; human reproduction and the reproductive organs; masturbation; marriage and family life; family planning and birth control; menstruation, attitudes and orientations to appropriate interpersonal relationships; sexual deviation, including rape and promiscuity; alcohol and drugs; and venereal disease (Fischer, Krajicek, & Borthick, 1973; Fischer & Krajicek, 1974a, 1974b; Goodman, 1972; Gordon, 1972a, 1972b, 1972c, 1973a, 1973b, 1973c, 1973d, 1974; Kempton, 1972, 1973, 1974; Kempton, Bass & Gordon, 1971; 1972; Menolascino, 1972; Meyen and Ketish, 1971; Schulz & Williams, 1969;

SEICUS, 1971; Selznick, 1966; Special Education Curriculum Development Center, 1972; Thorne, 1957). Kempton (1972) further argues that in preparation for community living, institutional staffs and parents of the retarded should provide some instruction in differing types of relationships with persons of the same sex and with those of the opposite sex, appropriate behavior with strangers, the meaning of sexual feelings and impulses, and their appropriate control and expression.

A questionnaire (Appendix A) covering the purpose, methods and proposed content areas of the test was distributed to parents, educators and clinicians who work with the retarded. The questionnaire explained the proposed instrument and posed several questions to elicit recommendations as to which socio-sexual areas and which critical misconceptions such a test should sample. In addition, a listing of the sexual and social areas which the investigators had developed was provided on a separate page with the request that the respondent rate the areas as to judged relevance. This rating indicated whether respondents felt particular areas "should definitely," "should probably," "probably should not," or "definitely should not" be included in the assessment instrument. A final question, to tap respondents' attitudes toward the proposed test, also appeared in the questionnaire. Of the 50 respondents, approximately two-thirds expressed positive attitudes toward the need for and the proposed development of the test.

The distribution of ratings given the various areas by the respondents appears in Table 1.

Table 1

Tabulation of Judged Importance of Socio-Sexual Areas

Area	Definite inclusion	Probable inclusion	Uncertain	Probable exclusion	Definite exclusion	No response
Body Parts	37	9	3	1	0	0
Masturbation	32	14	2	2	0	0
Premarital Sexual Conduct/Limits	35	7	5	2	0	1
Birth Control Information	42	5	2	0	1	0
Services	37	7	4	1	1	0

Area	Definite inclusion	Probable inclusion	Uncertain	Probable exclusion	Definite exclusion	No response
VD						
...how catch	43	5	1	0	1	0
...symptoms	43	4	2	0	1	0
...whom to tell	43	4	1	1	1	0
Intercourse	43	4	2	1	0	0
Pregnancy						
...how to get	42	4	3	0	1	0
...how know if	40	8	1	1	0	0
...what do if	39	6	3	1	1	0
...how prevent	42	2	3	1	1	1
Childbirth	26	12	9	2	0	1
Homosexuality	27	17	3	2	1	0
Incest & Other Inappropriate Contact	33	13	3	1	0	0
Extramarital Conduct/Limits	22	12	10	4	0	2
Inappropriate Physical Contact	41	6	2	1	0	0
Dating	37	8	4	0	1	0
Going Steady	24	17	19	0	0	0
Engagement	24	13	11	1	1	0
Marital Procedures & Responsibilities	32	13	3	1	1	0
Marriage (General)	36	11	1	2	0	0
Childrearing	28	12	7	2	1	0
Alcohol	22	21	5	2	0	1
Drugs						
...Medication	27	15	5	3	0	0
...Marijuana	26	13	8	3	0	0
...Hard drugs	25	12	8	3	1	1
Street Pickups	40	5	2	2	1	0
Rape	35	9	4	1	1	0
Hitchhiking	35	11	2	2	0	0
Adult Movies & Literature	14	17	14	5	0	0
Cursing	14	18	9	5	3	1
Nudity/Exposure	31	12	5	2	0	0
Voyeurism	24	14	10	2	0	0
Suggestibility to dares, etc.	35	10	2	1	2	0

More than half of all respondents thought all of the listed areas should (definitely or probably) be included in the test. Areas judged by less than 75 percent of the respondents to be (definitely or probably) in need of inclusion ("adult" movies and literature, and cursing,) were omitted from the test.

Thus, from the combination of survey responses, literature review, and the investigators' judgement, the following 14 topic areas were selected for inclusion:

1. ANATOMY/TERMINOLOGY (asks the names of body parts which the examiner points to on a picture of a nude male and a nude female)
2. DATING (limits, going steady, and engagement; also reference to marital and extra-marital conduct)
3. MARRIAGE (marital and extra-marital conduct)
4. INTIMACY (including extra-marital conduct and limits)
5. INTERCOURSE (including marital and extra-marital conducts and limits; incest)
6. PREGNANCY, CHILDBIRTH & CHILDREARING
7. MENSTRUATION
8. MASTURBATION
9. HOMOSEXUALITY
10. ALCOHOL AND DRUGS (including marijuana)
11. COMMUNITY RISKS & HAZARDS (including rape, hitchhiking, nudity, exposure, voyeurism, susceptibility to dares, inappropriate physical contact with strangers)
12. BIRTH CONTROL (including abortion and sterilization)
13. VENEREAL DISEASE
14. TERMINOLOGY CHECK (subject points to pictures illustrative of 11 concepts)

Selection of Questions

As a source of the questions to be used in sampling the topic areas, several members of the staff of local workshops and institutions for the retarded, and several other professionals in the fields of sex

education and mental retardation were interviewed. From their suggestions and from publications on the social and sexual training needs of the retarded, many questions evolved. In light of the limited socio-sexual research related to the retarded, it is not surprising that a large number of items were proposed. As a next stage, items were retained if they met the following criteria:

1. Questions should reflect socio-sexual concerns specific to one or more of the 14 fundamental areas.

2. Questions should be understandable by both mildly and moderately retarded persons and should be answerable with little or no verbalization.

3. Questions should neither impart information nor reflect societal/examiner biases. Misleading items which might lead to misunderstanding should be avoided.

The advanced stages of item selection and refinement proved to be difficult; on the advice of consultants, additional structural and content modifications were made, including the following:

1. Precautions were taken against the mass grouping of yes/no questions and against repetition of particular correct (yes/no) alternatives.

2. Questions were arranged in the order of general to more specific, and from the least to the more explicitly sexual to alleviate as much as possible the impact of surprise or shock.

3. Because of prevalent confusion and distortion among the retarded in the socio-sexual realm, certain questions were developed to explore the same situation from several angles. Thus, an individual providing an answer to a question posed in a particular way, might reveal imperfect understanding in response to a different wording of the same question. Also, similar questions and pictures were repeated to tap the range and limits of subjects' knowledge and attitudes in different areas.

4. To ascertain how much knowledge subjects claimed to have in each of the areas tested and to permit comparisons between correct responses and subjects' estimates of the information, three-choice questions were included, "How much do you know about...? A lot? A little? Or, nothing at all?" (The order of alternatives on these verbal multiple-choice items was randomly varied to control for subject response bias).

In its finished format, the test includes questions of three types: 1) what is understood by the subject, 2) whether the subject

feels positively or negatively toward particular social-sexual practices, and 3) how much the subject feels he knows about the area.

The purpose of the test is to indicate, in terms of correct versus incorrect responses, the extent of a subject's knowledge in a given area; in terms of the attitude items, whether a subject is generally positive or negative, and, in terms of the amount of knowledge items, how well prepared a subject considers himself to be.

Illustrations

Pictures are used in two ways in the test. One set of pictures is used to call attention to various socio-sexual areas; e.g., drawings of a nude male and female are presented when exploring the subject's knowledge of anatomical terminology. Other pictures are illustrative of multiple-choice answer options which a subject can point to in response to questions.

An effort was made to keep the style of visual representation of scenes consistently explicit throughout the test. Because retarded persons require more cues and detail in order to make good inferences, (Edmonson, deJung, Leland and Leach, 1974) realistic true-to-life drawings were used to represent all scenes involving adult nudity, and photographs were used to illustrate other situations and response options; except for the use of simple line drawings to symbolize basic feelings (a smiling face, a frowning face and a person being scolded), and a simple line drawing was used to portray the response option of a baby delivered by a stork.

Four response alternatives were typically presented for the multiple-choice questions. The incorrect alternatives were often representations of popularly held misconceptions or myths related to the topic under investigation. Where multiple-response options appeared, they were arranged so that the four options could be viewed concurrently. The position of correct alternatives was randomly varied so as not to obtain results biased by a position response. Certain photographs re-appeared throughout the test in reference to different questions.

Pictures and photographs varied in size according to three formats: a single photograph placed in the center of a page (all pages were 8-1/2 x 11); two alternatives appearing together on a page; or one photograph encompassing an entire page.

A Dennison commercial copier (#BC-28) was used to reproduce original photos and drawings into the form used for testing. Care was taken to assure quality and comprehensibility of reproductions.

Response Form

The response form is a checklist format permitting the examiner to indicate which response option was chosen for the multiple choice questions; whether positive, negative, or neutral was the response to the attitude questions; and which of a list of likely slang or colloquial terms were given in answer to anatomy terminology questions. Space was provided in the form to record participants' remarks or unusual responses. The response form also provides for the examiner's ratings of the subject's emotional reaction and cooperativeness.

Scoring

The scores are of three types:

1. For knowledge items (Type I) scorable as correct or incorrect, two points were given for a higher level, more mature, or fully correct answer, one point for a less mature or partially correct answer; and zero points for an incorrect answer.

2. Attitude item answers (Type II) were classed as positive, neutral, or negative and were coded as 2, 1 and 0, respectively.

3. Responses to items concerning how much the subject thought he knew about a given area (Type III), which required answers of "a lot," "a little," or "nothing," were coded as 2, 1 and 0.

For ordinary use, the test is intended to determine on what items an individual is correct or incorrect whether he is relatively less well informed on certain errors; and whether he feels it is all right or is not all right to engage in various practices, and whether or not he has a realistic notion of how much he knows. It is expected that such information will be used as an indication of an individual's or a group's instructional needs. For this purpose, it is, of course, important to note the actual response to each item rather than a total (subtest) correct score, or a score indicating toward how many items the subject feels positive and toward how many he feels negative. One could usefully also identify prevalent misconceptions by determining which of the wrong answer options was most often chosen by a group of respondents.

Although an individual's total scores are expected to be of less importance than awareness of his responses to individual items, total scores (total correct for each area, and total positive and total negative by area) can be computed. Total scores would be of use in comparing groups with others, or determining the extent of new learning.

Examiner Training

Two male examiners and two female examiners were trained to administer the test to supplement the testing done by the two investigators. These examiners were Ohio State University undergraduate and graduate students. Examiners were provided a two-day training workshop involving an explanation of the project, an introduction to the experimental instruments, observation of a test administration via videotape; and then practiced administration of the entire test or sections thereof while the investigators observed. Practice was followed by group discussion and a review of the administration and scoring techniques. As a further aspect of training, trainees observed a test administered by one investigator while simultaneously scoring responses. During practice, an effort was made to minimize variation in examiner's speech mannerisms, inflections, and non-verbal cues. Training emphasis was also placed upon sensitivity and responsiveness to subject and/or agency staff reaction to the test.

Inter-rater reliability was estimated by comparing the individually coded test protocols of each examiner for one practice test across all items. Those items for which there was scoring disagreement were later discussed in detail until full agreement between all examiners was reached.

Pilot Trial

To identify problems in the administration of the test and to provide practice for the examiners, portions of the test were administered to eight young men and eight young women residing in group homes for the retarded in Columbus, Ohio.

Some difficulty with subjects' comprehension of several questions on the pilot version was noted and these items were modified to make them clearer. In addition, several response alternatives were added to the answer form. Due to evident fatigue of the pilot subjects, it was decided that no more than five subtests (areas) of the test should be administered at a given time.

Use of Test

To demonstrate the instrument's usefulness, a program of testing was completed to provide data showing 1) the test-retest reliability of responses, then, whether there were differences in 2) knowledge about sex or 3) attitudes toward sex, or 4) the amount of information individuals believed they possessed, as between retarded men and women, and as between residents of an institution and those who were living in the community.

Samples

The institutional population consisted of residents of the Columbus (Ohio) State Institute, the oldest and one of the largest in the state, which housed some 1400 residents at the time of the testing. Although efforts toward deinstitutional training had been inaugurated five years prior to this study, there had been budgetary problems, problems of staff and program development, and other difficulties that make it difficult to change entrenched organizational systems, so that relatively few remedial training programs had actually reached the typical resident. The institution had accepted children as young as six and only some 50 or 60 a year had been released over the past decade. By far, most of the residents had spent most of their lives with minimal and sometimes with no educational or vocational programming, within the confines of the institutional system.

The institutional sample was drawn from two rosters, one identifying mildly retarded males and females and the other identifying the moderately retarded residents. Ages were between 18 and 40. From each roster, 25 men and 25 women were randomly selected. Sixteen alternates were also drawn as substitutes in the event of client absence or refusal to participate. One male failed to meet criteria for continuation of testing beyond the first section of the test and through oversight an alternate was not administered the test. Thus, a sample of 49 males and 50 females was actually tested from the population of the Columbus State Institute. The retest sample consisted of a random selection of 25 of the men and 25 of the women.

The community population consisted of enrollees in the three workshops operated by the Franklin County (Ohio) Program for the Mentally Retarded. This program, funded by public support, actually provided education and recreation in addition to vocational services for any individuals residing in the county who were identified as retarded below the educable level, age eligible, and excluded from the public schools. The county program employed and provided training for individual with IQ's below 85, ranging in independence from those requiring sheltered supervision to some who were capable of semi-competitive employment.

The community sample was drawn from the workshop rosters of the higher functioning clients with estimated IQ's between 30 and 70, and between 18 and 40 years of age. The administrators of the three workshops notified the 180 parents or guardians of the IQ and age eligible clients about the test and sought consent for their youngsters' participation. Fifty-one of the 180 parents declined consent. Fifty males and 50 females were randomly selected for testing from the list of 129 remaining names, and of these, 25 men and 25 women were randomly chosen for retesting. A list of 16 alternates was also selected from this community group of whom two were used to replace two subjects who declined to participate.

The subjects who were tested ranged from 18 years 3 months to 41 years 11 months of age (mean 26 years). IQ's ranged from 23 to 74 (mean 47.4). Eleven subjects had IQ's below 30; eight of these lived in the community. For a summary of age and IQ information, see Table 1 in Chapter 3.

Adaptive Behavior Scale Ratings

The Adaptive Behavior Scale (ABS) (Nihira, Foster, Shellhaas and Leland, 1969, revised 1974) provides for ratings on 10 different domains of adaptive behavior (Part I of the Scale) of demonstrated importance in the maintenance of personal independence and 14 categories of maladaptive behavior (Part II of the Scale). The ratings are provided by an individual who has had an opportunity to observe the subject's behavior.

Although actual ABS domain scores were not obtainable for the institutional sample, the subjects had been classified by the institutions's staff psychologist in terms of Adaptive Behavior "levels", following the 1970 AAMD classification (Nihira, et al, 1969) client records, and clinical impressions. The Adaptive Behavior levels of the institutional population spanned levels I (mild/borderline, N=23 persons), II (moderate, N=32 persons), III (Severe, N=32 persons) through level IV (severe/profound, N=3 persons). These three latter individuals had been classified as Level III at the time of their admission to the institution. Sixty-four persons in the institutional group functioned within Adaptive Behavior levels I and II (mild/moderate). The Adaptive Behavior Scale scores for the community sample indicated most as being at Levels II and III.

Item Sampling Procedure

Because of the large total number of test questions (276) in the experimental instrument, the length of time that would be required to administer the full test[1], and the distractibility and short attention span of many retarded persons (Scarborough and Ortinau, 1973), the method of item sampling was used to keep test administration within reasonable time limits.

The item sampling procedure (Lord & Novick, 1968) involves utilization of samples of items to estimate group achievement on all items of a test. Studies (e.g., Loadman, 1973) indicate that item sampling can be used to predict group achievement on the entire assessment measure

[1]Because of its comprehensiveness, (some 250 questions) the test is not intended for use straight through from beginning to end. Rather, it is meant to assess knowledge and/or attitudes with respect to one or several areas at a time.

without all subjects responding to all items. Other practical advantages of the item matrix sampling method include reduction of testing time per examinee and reduced costs of scoring each test (Shoemaker, 1971).

In an effort to approximate an administration time of about 30 minutes, it was decided to use five subtest areas of the experimental test with each subject. All subjects were tested on Anatomy/Terminology as an introductory subtest, and with the Terminology Check area as a concluding subtest. Three additional subtests were then randomly assigned to each subject. The decision to test all subjects with the Anatomy/Terminology area was based in part upon recognition that the material in this subtest is typically a foundation upon which sex education curricula rely. Also, data from this subtest would permit exploration of the relationship of Anatomy/Terminology knowledge to overall socio-sexual knowledge to confirm or disconfirm the Edmonson and Wish (1975) finding of only chance level relationship.

The Terminology Check area was selected for consistent inclusion in each test protocol in order to learn to what extent knowledge of technical terminology, often subsumed by training programs, correlates with overall social and sexual knowledge. The Terminology Check area was administered last to prevent the technical terminology from biasing examinee response to other test items.

Testing Procedure

Prior to the use of the test, recognizing that attempts to deal with any aspect of clients' sexuality is distressing to some staff members, an in-service session was provided to staff and administrators of the institution and the workshops to apprise them of the need for and the nature of this test. Any anticipated problems were discussed until a plan for resolution was developed. Although some staff member were concerned about behavioral repercussions, no incidents were reported.

Anticipating that subjects would be more comfortable if they were tested by someone of the same sex, the male examiners administered tests to male subjects and the female examiners tested only females.

Testing was conducted in private rooms with only the subject and examiner present.

Client Consent and Protection of Subjects' Rights

Client consent was sought only after each client had been told about the nature of the test, guaranteed privacy, and assured that his responses would be kept confidential. Subjects were also informed that they could withdraw consent and discontinue the testing at any

point. Nine subjects -- seven from the institution and two from the community -- declined participation in the study. None asked to discontinue testing. Institutional residents were required to have a witness observe their consent in order to participate. Witnessed consent was obtained for workshop clients only when a signature was illegible.

In securing client consent, care was taken to explain the details of the test and testing procedure in a simple and honest manner. Request for release of IQ and Adaptive Behavior Information, current place of residence, and length of institutional residence, appeared on the same consent form, yet was not prerequisite for subject participation in the study. Subjects who were to be retested were asked to sign a second consent form similar to the first, at the time of retesting.

In protection of client confidentiality, names did not appear on the answer forms, and all personal identification was encoded. Data were stored in locked files and separated from codes.

TEST-RETEST RELIABILITY, INTERNAL CONSISTENCY, AND VALIDITY

This section, after describing the procedure for coding the responses for computational analysis, discusses test-retest reliability, as determined by comparing responses given to two administrations of the test a week or more apart by a sample of 100 moderately and mildly retarded individuals. The data will indicate that responses to Type I questions (those concerning knowledge, and scorable as correct or incorrect) were quite stable; that responses to Type II questions (those concerning attitudes toward socio-sexual situations) were also stable across testings, and that Type III responses (answers to the question "How much do you think you know about...?") though exceeding chance agreement across testings, tended more than the other responses to fluctuate.

A description of the internal consistency of the separate subtest portions is provided via correlation coefficients, based upon responses from samples of institutional and community residents, which show the extent to which each question in the subtest tends to tap a general body of knowledge, or a general attitude, with respect to all of the questions of a given subtest.

The validity claimed for the instrument is that which Ebel (1972) refers to as relevance, or content validity, as will be briefly discussed in a final section of the chapter.

Response Scoring and Coding for Computational Analysis

Responses were regarded as consisting of three different types (Type I - Knowledge, Type II - Attitude, Type III - How much known) as has been previously described. Best correct answers to Type I questions were assigned a 2-point score, and less good answers were assigned a 1-point score. Incorrect answers were scored 0. Answers to Type II questions, positive, negative or neutral, were coded as 2=positive, 1=neutral, and 0=negative. Answers to Type III questions were coded as 2=know a lot, 1=know a little, 0=know nothing. The score value of each of the responses listed on the recording form was shown on a Scoring Key which is part of the test packet.

Reliability

To determine whether responses obtained by this instrument were stable indications of a subject's knowledge and attitude over time, the test was administered twice to a sample of 100 subjects (25 community males, 25 community females, 25 institutional males, 25 institutional females) randomly chosen from the larger samples of 50 each) with from seven to fourteen days intervening between tests.

Actual administration time per subject averaged 29 minutes for the community sample and slightly longer for the institutional group (range 20 minutes to 55 minutes) excluding the period for explaining the test and obtaining consent. All testing and retesting was completed within a four week period.

Subjects were, of course, retested on the same portions of the test they were initially administered, which meant that the entire 100 twice responded to the Anatomy/Terminology and Terminology Check sections, but the item sampling technique (see page 19) apportioned others of the 12 remaining subtests to smaller numbers of subjects, ranging from 21 to 34, from the combined subgroups.

The agreement between responses given on the two occasions was examined separately for each of the three types of responses. The consistency with which subjects answered was computed, first, in terms of the number of items of a given subtest on which the subject's answers were the same on the two administrations. Then, the average number of agreements to the total number of agreements possible for that subtest (the number of items of a given type) was then expressed as mean percent agreement for the subtest.

In addition, to determine on which items responses tended to be most and less consistent, the percent agreement between initial and retest responses for each item was computed across all subjects.

Table 2 summarizes the percent agreement data for Type I responses on the 14 subtests. The number of persons who twice received each subtest is shown in column 2, the number of Type I items in the subtest is shown in column 3. Columns 4 through 7 shows the average number of test-retest response agreements separately for the community males, community females, institutional males and institutional females. Column 8 shows the standard deviation for the combined group distribution of number of agreements. Column 9 shows the range of percent agreement across the four groups. Column 10 presents the average of the percent agreement of the four groups.

Table 3 summarizes the percent agreement data for the Type II responses for the 9 subtests which contained items pertaining to attitude. The number of such questions in the subtest is shown in

Table 2

Test-Retest Agreement: Mean Number and Percent Response Agreements for Knowledge Items (Type I)

Subtest Sample Size	Total # Subjects	Total # Items	Mean # of Response Agree. Comm. Males	Comm. Females	Insti. Males	Insti- Females	Standard Deviation # Agree	Range Mean % Agree Over Groups[a]	Mean % Agree Across Groups
Anatomy/ Terminology	100	17	15.3	15.2	14.3	14.7	1.6	84-90	87.4
Dating	23	13	10.8	10.9	10.2	11.5	2.0	78-88	83.2
Marriage	24	11	9.8	10.5	8.0	9.0	1.5	73-96	89.7
Intimacy	23	10	8.3	8.1	7.7	9.0	1.5	77-90	83.9
Intercourse	27	20	15.5	16.0	17.6	16.7	1.9	78-88	81.7
Pregnancy/Childbirth & Childrearing	25	31	25.3	26.7	25.1	27.4	2.5	81-88	84.8
Menstruation	24	6	4.4	5.3	4.3	5.4	1.1	72-90	79.0
Masturbation	28	7	6.0	5.8	5.2	5.3	1.3	74-86	78.6
Homosexuality	28	8	6.9	5.7	6.3	6.0	1.6	71-86	78.2
Alcohol & Drugs	34	17	14.2	14.7	13.0	13.4	1.8	76-86	81.5
Community Risks	21	22	19.0	20.0	17.7	19.8	2.4	80-90	86.8
Birth Control	26	23	18.1	19.0	18.0	17.7	1.9	77-83	78.9
Venereal Disease	23	12	10.0	9.0	9.9	10.8	2.2	75-89	82.2
Terminology Chk.	100	11	9.1	8.7	8.4	8.3	1.5	76-83	78.4

[a] mean percent agreement was calculated for each group and represents the average % of the subjects whose responses agreed for each item - e.g.,

$$\frac{\%\text{ agree item 1} + \%\text{ agree item 2}\ldots}{\text{total items in subtest}}$$

column 3. Column 4 shows the average number of test-retest response agreements for the combined groups; column 5 gives the standard deviation. Column 6 shows the range of percent agreement across the four groups, and column 7 presents the average of the percent agreement of the four groups.

Table 3

Test-Retest Agreement: Mean Number and Percent Response Agreements for Attitude Items (Type II)

Subtest	Total # Subjects	Total # Items	Mean # Agreements	Standard Deviation # Agreements	Range Mean % Agreement over Groups	Mean % Agreement Across Groups
Dating	23	8	7.2	1.3	75-91	89.8
Marriage	24	1	.9	.3	86-100	91.0
Intimacy	23	2	1.5	.6	69-100	76.0
Intercourse	27	5	4.0	.8	75-86	79.0
Pregnancy/Childbirth & Childrearing	24	2	1.8	.4	75-100	91.5
Masturbation	28	8	6.4	1.7	62-91	80.4
Homosexuality	28	7	5.8	1.3	75-93	82.4
Alcohol & Drugs	34	5	3.9	1.2	67-94	78.2
Community Risks	21	2	1.8	.4	80-100	88.0

Table 4 summarizes the percent agreement data for the Type III responses for the 13 subtests which contained a "how much do you know" question. The percent agreement across the four groups of male and female community and institutional subjects is presented in column 4.

As was indicated by Table 2, the test-retest average agreement within subtests, across subjects on Type I questions (scored as correct or incorrect) was high, ranging from 78.2 percent agreement on the homosexuality subtest to 89.7 percent agreement on marriage items. For Type II questions (scored positive, neutral, or negative), Table 3 shows the average agreement within subtests was similarly high, ranging from 76.0 percent agreement on the intimacy subtest to 91.5 on pregnancy/childbirth. For these attitude questions, the somewhat wider range of percent agreement across groups than was observed for the Type I responses may reflect uncertainties related to questions of this type. For Type III questions which asked the examinee how much he thought he knew about each area, Table 4 indicates somewhat less consistency than was obtained with Type I or Type II responses on most subtests, with a median of 67.6. The range was from 51.0 percent for the Anatomy/Terminology subtest to 82.1 percent for masturbation. A subject's estimation of how much he knew was somewhat less consistent than the beliefs and attitudes he reported.

Table 4

Test-Retest Agreement: Mean Percent Response Agreement for How Much Do You Know Items (Type III)

Subtest	Total # Subjects	Total # Items	Mean % Agreement Across Groups
Anatomy/Terminology	100	1	51.0
Dating	23	1	69.6
Marriage	24	1	70.8
Intimacy	23	1	56.5
Intercourse	27	1	77.8
Pregnancy/Childbirth & Childrearing	25	1	64.0
Menstruation	24	1	66.7
Masturbation	28	1	82.1
Homosexuality	28	1	67.9
Alcohol & Drugs	34	1	67.6
Community Risks	21	1	76.2
Birth Control	26	1	61.5
Venereal Disease	23	1	65.2

To identify the consistency with which the individual questions were answered, the percent agreement for test and retest scores were calculated for each item. The range for Type I items was from 59 to 100 percent with most of the items yielding at least 75 percent test-retest scoring agreement. Table 5 summarizes these results for Type I items in the subtests, the percent of these items on which the test-retest agreement attained the (arbitrary) magnitude of 75 percent, and the range of percent agreements across the items in each subtest.

Good response consistency is apparent for most items.

On the whole, test-retest response agreement for Type I and II items computed for subtests and for separate items was generally high. Inconsistent responses at times were doubtless a function of a subject's changed guess as to the appropriate answer, but in at least one instance, may reflect an inappropriate criterion for "correct" scoring (e.g., the childbirth question which a subject might initially have responded to by pointing to the vulva area and on retest, by pointing to the stomach). Inconsistent responses to the hitchhike question at times reflected subjects' shift of concern for depicted variables - at one time he might have responded to the hitchhiker's being in the street at a distance from the curb, and at other times he may have responded to the variables intended, i.e., desolate vs. busy surrounding; time of day; hitchhiking alone vs. with peer.

Table 5

Percent of Type I Items in Subtest for Which Test-Retest Response Agreement ≥ 75 Percent

Area	# Subjects	# Items	(#) Items Mean % Agreement ≥ 75	Range Mean % Agree Over Items
Anatomy/ Terminology	100	17	100 (17)	80 - 97
Dating	23	13	85 (11)	60.9-100.0
Marriage	24	11	100 (11)	79.2- 95.8
Intimacy	23	10	80 (8)	73.9- 91.3
Intercourse	27	20	60 (12)	59.3-100.0
Pregnancy/Child-birth & Child-rearing	25	31	90 (28)	64 -100
Menstruation	24	6		
Masturbation	28	7	71 (5)	60.7- 96.4
Homosexuality	28	8	75 (6)	71.4- 92.9
Alcohol and Drugs	34	17	71 (12)	64.7-100.0
Community Risks & Hazards	21	22	86 (19)	66.7-100.0
Birth Control	26	23	65 (15)	61.5-100.0
Venereal Disease	23	12	83 (10)	73.9- 91.3
Terminology Check	100	11	64 (7)	59 - 93

Internal Consistency

To determine the extent to which the answers to the various items in the subtest tap a general body of knowledge about the subtest, the responses from 199 subjects, 100 of whom were community residents, and 99 residents of a state institution as earlier described, were computed in terms of Kuder-Richardson equation #3 for scale reliability (Kuder and Richardson, 1937). Item reliabilities were corrected for spurious overlap. Table 6 presents item reliability coefficients and the K-R coefficient indicating the internal consistency of the Type I portions of the subjects' responses.

It is apparent from the range of coefficients in Table 6 that some subtests are more homogeneous than others. The K-R reliability (.468) for the Marriage Subtest was, however, artifactually lowered by Item 2/9 which was provided merely for the overflow scoring options of the preceding question 2/8 "why do most people get married?" It was also lowered by a number of over-easy questions such as 1/79 "Point to people who were just married," and 2/10 "should people stay married to each other a long time?" On the other hand, the K-R coefficient of .529 for Venereal Disease was partly a function of the difficulty of

Table 6

Item Reliability and Kuder Richardson Coefficients for Type I Questions

Subtest Questions	Item Reliability (N=199)	Subtest Questions	Item Reliability (N=47)	Subtest Questions	Item Reliability (N=61)	Subtest Questions	Item Reliability (N=37)
Anatomy/Terminology		Dating		Marriage		Intimacy	
1/38	.342	1/56	.170	1/79	+.016	2/17	-.383
1/39	.307	1/58	.289	2/6	-.010	2/21	.703
1/41	.473	1/59	-.061	2/8	.127	2/22	.586
1/42	.438	1/60	.520	2/9	-.367	2/23	.645
1/43	.456	1/61	.118	2/10	-.049	2/24	.752
1/44	.516	1/62	.516	2/11	.062	2/25	.493
1/45	.281	1/63	.227	2/12	.019	2/26	.403
1/46	.497	1/65	.138	2/13	.415	2/27	.648
1/47	.554	1/66	.311	2/14	.534	2/28	.382
1/48	.591	1/67	.[illegible]	2/15	.572	2/29	.025
1/49	.601	1/70	.251	2/16	.507		
1/50	.429	1/74	.379				
1/51	.374	1/75	.474				
1/52	.377						
1/53	.312						
1/54	.485						
1/55	.546						
K-R Total Subtest Reliability	.827		.622		.468		.747

Subtest Questions	Item Reliability (N=45)	Subtest Questions	Item Reliability (N=45)	Subtest Questions	Item Reliability (N=40)	Subtest Questions	Item Reliability (N=40)
Intercourse		Intercourse		Pregnancy, Childbirth, Childrearing		Pregnancy, Childbirth, Childrearing	
2/30	.423	2/45	.169	2/58	.526	2/75	.131
2/35	.282	2/46	.132	2/59	.590	2/76	-.059
2/36	.453	2/47	.479	2/60	.528	2/77	.066
2/37	.272	2/48	.431	2/61	.492	2/78	.213
2/38	.453	2/50	.374	2/62	-.119	3/6	.213
2/39	.254	2/51	.427	2/63	.530	3/7	-.192
2/40	.239	2/52	.465	2/64	.203	3/8	.313
2/41	.354	2/53	.215	2/65	.298	3/9	.244
2/42	.379	2/54	.431	2/66	.484	3/10	.065
2/43	.341			2/67	.435	3/11	.170
2/44	.504			2/68	-.008	3/12	.063
				2/69	.597	3/13	.586
				2/70	.158	3/14	.700
				2/71	.167	3/15	.462
				2/72	.345		
				2/73	.093		
				2/74	.440		
K-R Total Subtest Reliability			.776				.81[illegible]

Table 6, Con't.

Subtest Questions	Item Reliability (N=46)	Subtest Questions	Item Reliability (N=57)	Subtest Questions	Item Reliability (N=57)	Subtest Questions	Item Reliability (N=56)
Menstruation		Masturbation		Homosexuality		Alcohol & Drugs	
3/16	.444	3/23	.512	3/39	-.022	3/55	.519
3/17	.548	3/27	.580	3/43	.439	3/57	.310
3/19	.220	3/28	.590	3/45	.378	3/59	.138
3/20	.427	3/30	.286	3/46	.216	3/63	.324
3/21	.119	3/33	.528	3/47	.087	3/64	-.103
3/22	.401	3/34	.594	3/50	.407	3/65	.211
		3/36	.116	3/52	.473	3/66	.108
				3/53	.399	3/67	.164
						3/68	.453
K-R Total Subtest Reliability	.600		.709		.600	3/70	.316
						3/71	.470
						3/73	.220
						3/74	.124
						3/75	.600
						3/76	.600
						3/77	.540
							.709

Subtest Questions	Item Reliability (N=54)	Subtest Questions	Item Reliability (N=56)
Community Risks and Hazards		Birth Control	
3/79	.687	4/29	.570
4/6	.845	4/31	.436
4/9	-.093	4/32	.314
4/10	-.075	4/33	.537
4/11	.114	4/34	.417
4/12	-.043	4/35	.469
4/13	.446	4/36	.547
4/14	.671	4/37	.457
4/15	-.068	4/38	.433
4/16	.580	4/39	.525
4/17	.702	4/40	.372
4/18	.623	4/41	.391
4/19	.511	4/42	.247
4/20	.590	4/43	.185
4/21	.228	4/44	.491
4/22	-.051	4/45	.461
4/23	-.010	4/46	.038
4/24	.359	4/47	.226
4/25	.132	4/48	.234
4/26	.175	4/49	.268
4/27	.401	4/50	.287
4/28	.282	4/51	.367
		4/52	.169
K-R Total Subtest Reliability	.746		.805

Subtest Questions	Item Reliability (N=44)	Subtest Questions	Item Reliability (N=199)
Venereal Disease		Terminology Check	
4/53	.190	4/66	.350
4/55	.205	4/67	.287
4/56	.074	4/68	.299
4/57	.329	4/70	.256
4/58	.207	4/71	.538
4/59	.324	4/72	.288
4/60	.144	4/73	.340
4/61	.322	4/74	.388
4/62	.135	4/75	.524
4/63	.070	4/76	.299
4/64	.307		
4/65	.314		
	.529		.687

several questions, such as 4/56 "Can a person sometimes get VD from this (toilet)?" and 4/57 "Can a person sometimes get VD from this (shaking hands)?" More subjects answered these questions incorrectly than correctly.

If it were felt to be desirable, the consistency of the subtests could be improved by removing unusually difficult and unusually easy questions, by an increase in number of middle difficulty questions, and by eliminating certain items that are not homogeneous with others. None of these steps seems advisable at this time. The questions are relevant to the various areas of socio-sexual knowledge, and it is important to determine whether a subject knows or does not know the answers to particular questions, whether or not he is equally correct or incorrect in his responses to other items in the subtests.

From the coefficient in Table 7, it is apparent that responses to the Type II questions in the subtests for Intimacy, Pregnancy, and Community Risks and Hazards did not bear as close a relationship to the total of attitudinal responses as did the responses to Dating, Masturbation and Homosexuality.

Validity

Ebel (1972) defines validity as "the accuracy with which a set of test scores measures what it ought to measure." (p. 435). This requires a method of determining what ought to be measured, and an assessment of test reliability. For most tests of educational achievement, Ebel says what ought to be measured (relevance) "is a matter of logical analysis and expert judgement" (p. 446). Relevance has to be built into the instrument.

The procedure followed in developing the present instrument was the effort to build in relevance. First, a list of content areas for the present instrument, as described in Chapter II, was prepared after careful review of existing sex education curricula and related publications. This list was rated as to relevance by some 50 individuals including parents, staff members of an institution, and others with experience in the field of mental retardation. The considerable agreement as to the relevance of the areas which were included as subtests is shown by the tabulation of relevance ratings by these 50 individual on pages 11-12. Ebel indicates that this content "curricular validity" is determined by the test's rationale, the building in of relevant material, and, of course, a method of administration and scoring which distorts the tester's actual knowledge as little as possible.

Predictive Validity

The extent to which a person's socio-sexual knowledge or his attitudes toward certain practices may be related to the carelessness or the prudence of his sexual behavior, will require specific investigation.

Table 7

Item Reliability and K-R Coefficient for Type II Questions

Subtest Questions	Item Reliability (N=47)	Subtest Questions	Item Reliability (N=37)	Subtest Questions	Item Reliability (N-45)	Subtest Questions	Item Reliability (N=40)
Dating		Intimacy		Intercourse		Pregnancy, Childbirth, Childbearing	
1/65	.349	2/19	.233	2/32	.682	2/58	.044
1/68	.221	2/20	.233	2/33	.385	2/79	.044
1/69	.425			2/34	.168		
1/71	.400			2/49	.346		
1/72	.711			2/55	.293		
1/73	.798						
1/76	.645						
1/77	.549						
K-R Total Subtest Reliability	.808		.227		.588		.045

Subtest Questions	Item Reliability (N=46)	Subtest Questions	Item Reliability	Subtest Questions	Item Reliability	Subtest Questions	Item Reliability
Masturbation		Homosexuality		Alcohol & Drugs		Community Risks & Hazards	
3/25	.636	3/41	.746	3/56	.506	4/7	.486
3/26	.576	3/42	.750	3/58	.553	4/8	.486
3/29	.483	3/48	.658	3/60	.609		
3/31	.580	3/49	.703	3/62	.050		
3/32	.602	3/51	.555	3/69	.209		
3/35	.522	3/54	.038				
3/37	.130						
3/38	.455						
K-R Total Subtest Reliability	.771		.788		.606		.484

Concurrent validity, the extent to which responses to this instrument may be related to responses to other data indicative of sex knowledge and attitudes, is an additional area requiring future investigation.

4

THE SOCIO-SEXUAL KNOWLEDGE AND ATTITUDES OF INSTITUTIONAL AND COMMUNITY RESIDENTS

As is suggested by the literature review section of Chapter 1, there is concern about whether to instruct the retarded in socio-sexual outlooks and practices to help them function as much as possible like other persons, or whether to try to preserve the state of naivete which many parents and members of agency staffs believe to be desirable and possible.

To the writers, the option of naivete is reasonable only if the retarded individual were to remain away from the world, forever guarded. Until very recently that has been the protective stance of the institutions despite the fact that residents did not remain there forever, and that worldly knowledge, although typically distorted, could not be excluded. A proportion of the residents have always been sex-knowledgeable persons who were institutionally placed to get them off the streets or out of homes in which they were inappropriately sexually aggressive or sexually exploited. In addition, as is clear from the occasional news release, members of institution staffs at times have served as practical instructors. The apparent consequence is misinformation and confusion, which is poor protection whether within or outside the institution.

The option of naivete seems no more viable for the community resident in this decade than for the resident of an institution. How is it possible to screen out the sexual stimuli from billboards, television programs, magazines; from contacts in schools and workshops, or even from the neighborhood? It should be abundantly clear that ignorance produces at least as many problems as "knowledge"; perhaps more, as many of us believe. To decide what the retarded person needs by way of instruction in socio-sexual knowledge and attitudes, we must find out what he does, prevalently, know or believe and what he is mistaken about.

Are institutional residents less generally knowledgeable about socio-sexual areas than individuals residing in the community (reflecting the spread of hearsay information and the imperfect penetration of media)? Are women less knowledgeable than men? Or are men less knowledgeable than women? With respect to what areas of knowledge is ignorance most prevalent?

To obtain information of this nature, the test was given to a sample of 99 men and women residents of a state institution and a sample of 100 men and women who were living with parents or in group homes in this community as was described in Chapter 2. The two populations and the methods of sampling are described in Chapter 2.

The institutional residents had been housed in a large state institution for the mentally retarded for periods of time ranging from 3 to 25 years (16 years on the average). Only one of the residents tested had lived in the institution for fewer than five years. Nine of the resident sample had spent more than 25 years in that setting.

Of the community residents, 92 had never resided in an institution, while eight who had had some institutional experience had lived outside for an average of about five years.

Examiner selection and training was also described in Chapter 2. Tests were individually administered by a male examiner to male subjects and by a female examiner to female subjects. As was earlier described (p. 20) all subjects were given the Anatomy Terminology and the Terminology Check subtests. The other 12 subtests were randomly apportioned so that each subject responded to five subtests. The following data with some modifications are from a dissertation by Katherine Fiechtl (1976).

Results

The institutional sample was somewhat older and had a higher mean IQ than the community residents as is shown by Table 8 which presents the means and ranges of ages and IQ's for the two populations.

Knowledge

To determine whether residents of the community and the institution differed from one another with respect to sex knowledge (Type I questions) and on which subtests, the effects of IQ, age, and sex were statistically examined via a series of ANOVA computations (Appendix C). The results of the first of these, a 4 x 4 analysis (IQ x group) is presented in Table 9.

As can be noted, IQ made a significant difference in accuracy of Type I responses to 8 of the 14 subtests. The only subtests on which IQ was not a significant variable were Masturbation, Homosexuality, Community Risks and Hazards, Birth Control, and Venereal Disease. To discern between what IQ levels the differences in sex knowledge became apparent, the Scheffe method of multiple comparisons was applied

Table 8

Means and Ranges of Ages and IQ's

Sample	N	Mean Age	Age Range	Mean IQ	IQ Range
Institution					
Males	49	28-2	19-10 to 39-10	51.2	30 to 70
Females	50	28-7	18-3 to 40-11	52.7	27 to 74
Community					
Males	50	25-6	18-11 to 41-4	43.2	23 to 66
Females	50	25 4	18-5 to 41-11	42.5	25 to 67

Table 9

F Values 4 x 4 (IQ[a] by Group[b]) Analysis of Variance on Knowledge Items per Subtest

	F for IQ	p[c]	F for Group	p[c]	F for Interaction	p[c]	N[d]
Anatomy	9.977	.001	7.606	.001	0.439	-	199
Dating	0.475	-	1.128	-	0.652	-	47
Marriage	6.205	.002	1.303	-	0.528	-	62
Intimacy	4.398	.013	4.288	.015	0.346	-	37
Intercourse	3.632	.022	1.210	-	1.150	-	45
Pregnancy	7.744	.001	2.362	-	0.883	-	40
Menstruation	3.762	.020	9.262	.001	22.216	.001	46
Masturbation	1.176	-	2.098	-	0.233	-	57
Homosexuality	0.863	-	0.817	-	0.541	-	58
Alcohol & Drugs	6.135	.002	5.997	.002	0.688	-	56
Community Risks	2.199	-	0.939	-	0.600	-	54
Birth Control	1.887	-	3.742	.018	0.511	-	56
Venereal Disease	0.805	-	1.612	-	0.379	-	44
Terminology	14.970	.001	10.886	.001	1.271	-	199

[a]Levels of IQ = 20-39, 40-49, 50-59, 60-79
[b]Groups = Insti. males, Insti. females, Comm. males, Comm. females
[c]Where $p < .05$
[d]Number of subjects who were administered the subtest

to the four IQ level means. As this test is conservative, the .10 level of confidence was chosen as the significance level. Table 10 presents the results.

Table 10

Significant Differences[a] in Type I Responses in Relation to Differences Between IQ Level Means

Subtest	Comparison of IQ Level Means					
	IQ Range 20-39:40-49	29-39:50-59	29-39:60-79	40-49:50-59	40-49:60-79	50-59:60-79
Anatomy		X	X	X	X	
Marriage		X	X		X	
Intimacy						
Intercourse		X				
Pregnancy			X		X	
Menstruation						
Alcohol & Drugs						
Terminology Check		X	X			

[a] $p < .10$

The table indicates that subjects whose IQ's were in the lowest IQ range (20 to 39) did not differ in knowledge from subjects whose IQ's were in the next higher IQ range (40 to 49) on any subtest. These lowest IQ subjects, however, were less knowledgeable than those in the higher IQ range of 50-59 with respect to four subtests. There was little difference between the knowledge of those in the 40-49 IQ range and those in the 50-59 range, but on three subtests those in the 40-49 range were less knowledgeable than those in the highest range (60-79).

On most subtests, those with higher IQ's achieved higher mean knowledge scores than those with lower IQ's. The IQ group interaction on one subtest, Menstruation, is explained by the fact that the highest mean score for knowledge responses was attained by those in the lowest IQ range (almost all of whom were community residents), followed in order by those in the range 50-59, then 60-79 (both mostly institutional residents), then 40-49 (evenly divided between community and institutional residents).

There were significant differences between groups in their Type I responses on six of the subtests: Anatomy, Intimacy, Menstruation, Alcohol and Drugs, Birth Control, and Terminology Check.

An analysis of variance to determine whether age was a significant variable in responses to Type I questions resulted in the F values presented in Table 11.

Table 11

F Values for 4 x 4 (Age[a] by Group) Analysis of Variance on Knowledge Item per Subtest

	F for Age	p[b]	F for Group	p[b]	F for Interaction	p[b]
Anatomy	2.624	-	3.870	.010	2.332	.016
Dating	0.749	-	1.022	-	0.591	-
Marriage	1.068	-	0.730	-	0.663	-
Intimacy	0.266	-	0.785	-	0.530	-
Intercourse	0.060	-	0.748	-	0.848	-
Pregnancy	1.040	-	0.547	-	0.680	-
Menstruation	1.261	-	2.193	-	1.332	-
Masturbation	1.533	-	2.437	.077	0.929	-
Homosexuality	0.126	-	0.683	-	1.985	-
Alcohol and Drugs	0.408	-	1.377	-	0.846	-
Community Risks	0.776	-	0.559	-	0.930	-
Birth Control	0.522	-	2.985	.041	0.502	-
Venereal Disease	0.646	-	1.011	-	0.258	-
Terminology Check	0.001	-	3.004	.031	1.418	-

[a]Age levels - 18-22-11; 23-27-11; 28-32-11; 33-43
[b]$p = < .05$

It is apparent from the table that age was not a significant variable except in interaction with group in response to the Anatomy subtest on which the oldest institutional females had the highest mean score, followed in turn by community females and community males; with institutional males scoring lowest.

Group accounted for significant differences in Type I responses to Anatomy Terminology, for example: (community males > institutional males); Masturbation (community males > community females); Birth Control (institutional females > institutional males); Terminology Check (community males > institutional males).

The results of a 2 x 2 analysis of variance (Males vs. Females x Institution vs. Community) to examine the effects of sex and place of residence on Type I questions are shown in Table 12.

Table 12

F Values for 2-Way (Sex by Residence) Analysis of Variance on the Mean Scores of Knowledge Items per Subtest

	N[c]	F for Sex	p[a]	Signif. Higher[b]	F for Residence	p[a]	Signif. Higher[b]	F for Interaction	p[a]
Anatomy	199	1.653	-		1.973	-		6.903	.009
Dating	47	0.850	-		0.746	-		2.343	-
Marriage	62	1.342	-		0 947	-		0.632	-
Intimacy	37	0.068	-		4.353	.042	Community	0.220	-
Intercourse	45	0.329	-		0.822	-		1.636	-
Pregnancy	40	2.260	-		0.052	-		0.087	-
Menstruation	46	28.691	.001	Females	0.063	-		3.870	-
Masturbation	57	0.006	-		0.100	-		6.761	.012
Homosexuality	58	0.230	-		1.293	-		0.000	-
Alcohol and Drugs	56	0.001	-		3.390	-		2.628	-
Community Risks	54	0.063	-		0.522	-		0.455	-
Birth Control	56	9.647	.003	Females	0.475	-		0.209	-
Venereal Disease	44	2.090	-		1.386	-		0.176	-
Terminology Check	199	0.150	-		8.248	.005	Community	0.720	-

[a]where $p < .05$

[b]Direction of difference; group which scored significantly higher

[c]N=Number of subjects who were administered the Subtest

The two significant interactions, for Anatomy Terminology and Masturbation, are attributable to females in the institution scoring higher than females in the community, while males in the community scored higher than males in the institution. This eliminated the possibility of significant main effects for these subtests. As can be noted, the sex of the subjects made a difference in scores on Menstruation and Birth Control. Womens' scores were higher than mens' at the .05 level of significance. On the subtests of Intimacy and Terminology Check, community residents scored higher than institutional residents.

To determine on which particular subtest questions there were significant differences in score in relation to sex and place of residence, a 2 x 2 analysis of variance yielded the information presented for reference as a table in Appendix B. As a summary of the data, Table 13 indicates the number of items within each subtest on which the scores by males differed from those by females or on which one type of resident differed from the other, or on which the interaction of the sex residence variables was significant.

Table 13

Summary of the Number of Knowledge Items per Subtest on Which Responses Differed Significantly Depending Upon Respondents' Sex, Residence, or Interaction of Sex and Residence

	# Diffs. by Sex	Males Higher	Females Higher	# Diffs. by Residence	Insti. Higher	Community Higher	# Signif. Interactions	Total # of Sig	# of Items Sig*	# of Items in Subtest
Anatomy Terminology	3	0	3	3	0	3	3	9	7	13
Dating	0	0	0	0	0	0	3	3	3	13
Marriage	2	0	2	2	2	0	0	4	4	11
Intimacy	2	2	0	2	1	1	0	4	3	10
Intercourse	0	0	0	0	0	0	2	2	2	20
Pregnancy	2	1	1	3	1	2	1	6	6	31
Menstruation	3	0	3	0	0	0	0	3	3	6
Masturbation	1	1	0	0	0	0	3	4	3	7
Homosexuality	0	0	0	0	0	0	0	0	0	8
Alcohol and Drugs	0	0	0	2	0	2	1	3	3	17
Community Risks	0	0	0	1	0	1	1	2	2	22
Birth Control	6	0	6	3	0	3	1	10	8	23
Venereal Disease	2	1	1	1	0	1	1	4	3	12
Terminology Check	5	2	4	5	0	5	0	10	8	11
TOTAL	26	7	19	22	4	18	16	64	55	204

*p = .05 or less

As can be noted in Table 13, women scored significantly higher than men on 19 items, more than twice the number of items on which males scored higher; community residents scored significantly higher than institutional residents in 18 items, and institutional residents higher than community residents on only 4 items. As can be noted in Appendix B, in 14 of 16 interactions, the females in the institution scored higher than females in the community while males in the community scored higher than males in the institution.

The average scores attained on the Type I questions by men or women in either place of residence are shown in Table 14. The right hand column in the table shows the maximum possible score for each subtest. This maximum score includes the 2-point scores (more adult responses) for several items in most subtests and the 1-point scores which indicate a correct response to other Type I items. As an indication of the relative difficulty of the subtests, the average score attained was divided by the possible score to obtain "percent correct" for each of the groups. The percent correct figures for the combined groups may be of particular interest as these are a rough indication of the relative difficulty of the subtests for the pouplations tested.

It can be noted that across the board, subjects were least knowledgeable about Birth Control, Venereal Disease and Homosexuality, earning on the average about half, or less than half, of the possible scores. That the groups, across all subtests, were about equally knowledgeable, is evident from the data at the foot of the columns.

Relation Between Knowledge and Adaptive Behavior Levels and Ratings

Estimates of Adaptive Behavior (AB) levels were obtained for the institutional residents, and Adaptive Behavior Scale ratings were

Table 14

Mean and Percent Correct Scores of the Knowledge Items Per Subtest

	Female Institution			Male Institution			Female Community			Male Community			Combined Groups			Maximum Possible Score[c]
	N	Mean Score[a]	%Correct[b]	N	Mean Score[a]	%Correct[b]	N	Mean Score[a]	%Correct[b]	N	Mean Score[a]	%Correct[b]	N	Mean Score[a]	%Correct[b]	
Anatomy & Terminology	(50)	24.81	73	(49)	20.89	61	(50)	23.74	70	(50)	25.10	74	(199)	23.64	70	34
Dating	(9)	19.11	74	(10)	15.20	58	(18)	18.34	70	(10)	18.90	73	(47)	17.94	69	26
Marriage	(18)	16.34	74	(11)	14.55	66	(18)	14.95	68	(15)	14.40	65	(62)	15.15	69	22
Intimacy	(10)	10.30	52	(7)	11.43	57	(11)	13.91	70	(9)	13.67	68	(37)	12.41	62	20
Intercourse	(9)	31.66	79	(9)	27.00	68	(11)	26.54	66	(16)	27.62	69	(45)	28.04	70	40
Pregnancy	(10)	41.60	67	(12)	35.92	58	(10)	41.40	67	(8)	37.63	61	(40)	39.05	63	62
Menstruation	(13)	9.39	78	(10)	6.80	57	(8)	8.50	71	(15)	5.34	45	(56)	7.35	61	12
Masturbation	(16)	9.87	70	(17)	7.82	56	(14)	7.21	52	(10)	10.30	74	(57)	8.68	62	14
Homosexuality	(16)	7.25	45	(12)	7.75	48	(11)	8.09	51	(19)	9.05	57	(58)	8.10	51	16
Alcohol and Drugs	(15)	20.06	59	(14)	17.64	52	(14)	19.92	59	(13)	23.84	70	(56)	20.30	60	34
Community Risks	(16)	25.31	58	(14)	27.00	61	(16)	27.87	63	(8)	26.75	61	(54)	26.72	61	44
Birth Control	(9)	23.00	50	(18)	14.44	31	(7)	22.57	49	(22)	16.32	35	(56)	17.57	38	46
Venereal Disease	(9)	12.00	50	(13)	9.46	39	(12)	13.00	54	(10)	11.60	48	(44)	11.43	48	24
Terminology Check	(50)	11.44	52	(49)	10.57	48	(50)	12.62	57	(50)	13.42	61	(199)	12.02	55	22
TOTAL		262.14			226.47			258.66			253.94			248.41		
TOTAL AVERAGE %			63			54			62			61			60	416

[a]A subject's score for a subtest was the sum of his 2-point and 1-point responses to Type I items.
[b]The mean of each subject's score for the subtest was divided by the maxim score possible for the subtest.
[c]The maximum score is the sum of the 2-point scores possible for several items in the subtest plus 1-point for the remaining Type I items.

obtained for the community residents as previously indicated on page 19. The relationships between Type I scores and these estimates of adaptive behavior were examined separately for the two residential groups.

The distribution of the AB levels for the institutional males and females is shown in Table 15. Because of the small number of subjects at AB level 4, subjects in level 4 were combined with those in level 3 for statistical analysis.

Table 15

Distribution of Adaptive Behavior Levels of Institutional Residents

		Adaptive Behavior Level			
	N	1 Mild	2 Moderate	3 Severe	4 Profound
Females	50	12	19	18	1
Males	49	11	22	14	2
TOTAL	99	23	41	32	3

Table 16

F Values for 3 x 2 (AB Levels by Sex) Analysis of Variance on Knowledge Items Per Subtest

	F for AB Levels	p[a]	F for Group	p[a]	Higher[b]	F for Interaction	p[a]	N
Anatomy	7.334	.001	7.778	.006	Females	0.069	-	99
Dating	1.630	-	4.793	.045	Females	2.959	-	19
Marriage	1.488	-	2.410	-		1.555	-	29
Intimacy	2.010	-	0.000	-		0.658	-	17
Intercourse	13.307	.001	0.016	-		0.006	-	18
Pregnancy	3.358	--	1.886	-		0.311	-	22
Menstruation	0.029	-	34.937	.001	Females	3.882	.040	23
Masturbation	2.404	-	2.072	-		1.884	-	33
Homosexuality	3.629	.042	0.005	-		0.568	-	28
Alcohol and Drugs	4.572	.021	3.271	-		0.237	-	29
Community Risks	10.175	.001	2.481	-		1.526	-	30
Birth Control	2.239	-	5.590	.02[illegible]	Females	0.101	-	27
Venereal Disease	0.917	-	1.066	-		0.562	-	22
Terminology Check	13.922	.001	1.361	-		2.555	-	99

[a]Where $p < .05$

[b]Direction of difference; group which scored significantly higher

First, to determine whether there was a relationship between AB levels and sex of the institutional resident with respect to sex knowledge (Type I responses) an analysis of variance (AB levels x Sex) was computed. Table 16 shows the F values and significance levels for the relationships. On six of the 14 subtests, AB level was related to sex knowledge and on four subtests, a significant difference in sex knowledge was attributable to the respondent's sex. Females scored higher than males on Anatomy, Dating, Menstruation, and Birth Control. In explanation of the interaction, although females across all three AB levels had somewhat higher knowledge scores in Menstruation items than males, the knowledge scores by women in AB level 2 were significantly higher than those in other AB levels.

The Scheffe method of multiple comparisons was applied to the data to determine which comparisons accounted for the differences. Table 17 shows the comparisons of the AB level means per subtest which attained the .10 level of significance.

The comparison resulted in a consistent pattern in which those at the highest AB level had mean knowledge scores higher than those at lower AB levels.

Table 17

Significant Differences in Mean Knowledge Scores in Relation to Adaptive Behavior Levels

	AB Level 1 Higher than AB 2	AB Level 1 Higher than AB 3	AB Level 2 Higher than AB 3
Anatomy		X	X
Intercourse		X	X
Homosexuality	X	X	
Alcohol and Drugs			X
Community Risks		X	X
Terminology Check		X	X

X = Significant at .10 level

Actual Adaptive Behavior Scale ratings for the 10 domains of adaptive behavior and the 14 domains of maladaptive behavior were obtained for 96 of the community residents. Pearson Product Moment correlations were computed to determine the relationships between subjects' ABS ratings on each domain and their sex knowledge scores. Table 18 presents the coefficients obtained between sex knowledge and ratings on the 10 adaptive domains, and indicates the probabilities when less than .05. All 96 subjects were administered the Anatomy Terminology and the Terminology Check subtests. The smaller numbers of subjects who were given the other 12 subtests are shown in the righthand column. Inspection of Table 18 reveals coefficients

ranging from .005 (Dating: Responsibilities) to .646 (Pregnancy: Self Direction). Most of the 140 coefficients were positive and 33 exceeded zero level with $p < .05$. It is apparent that scores on the Anatomy Terminology subtest were most closely related to the 10 Adaptive Behavior domains, with $p < .05$ for 7 of the 10 coefficients. Ratings on the Economic Activity domain were most apt to be related to the 14 sex knowledge subtests, with $p < .05$ for 7 of the 14 coefficients. As Economic Activity ratings are typically significantly related to IQ's, it is possible that IQ was a significant common factor.

Table 19 presents the correlation coefficients between sex knowledge scores and ratings on the 14 maladaptive domains. Probabilities less than .05 are shown.

Although, as might be expected, many (50%) of the coefficients were negative, only 9 of the 196 attained the $p < .05$ level, a result which could be attributed to chance.

Table 18

Pearson Correlation Coefficients Between Community Residents' Part I ABS Scores and Knowledge Scores per Subtest

	Indep. Func.	Phys. Devel.	Economic Activity	Language	Number & Time	Domestic	Vocation	Self-Direc.	Responsibility	Socialization	N
Anatomy	.224	-.059	.374	.246	.331	.238	.185	.239	.192	.365	96
p	.028*		.001*	.016*	.001*	.019*		.019*		.001*	
Dating	.356	.073	.292	.423	.212	.477	.053	.047	-.005	.295	26
p				.031*		.014*					
Marriage	.491	-.265	.591	.214	.314	.575	.191	.205	.211	.450	32
p	.004*		.001*			.001*				.010*	
Intimacy	.470		.261	-.039	.188	.402	.096	.431	.411	.415	19
p	.042*										
Intercourse	.334	-.354	.452	.282	.386	.205	.104	.342	.150	.226	27
p			.018*		.047*						
Pregnancy	.139	.037	.492	.382	.131	.505	.277	.646	.627	.241	18
p			.038*			.032*		.004*	.005*		
Menstruation	.034	.321	-.126	.319	-.118	-.038	.364	.205	.373	.269	23
p											
Masturbation	.102	[a]	.274	-.008	.519	.018	.012	.052	.031	.304	22
p					.013*						
Homosexuality	.359	.132	.395	.268	.240	.321	-.025	.018	.341	.317	30
p			.030*								
Alcohol & Drugs	.470	[a]	.322	.445	.137	.541	.128	.409	.156	.300	26
p	.015*			.023*		.004*		.038*			
Community Risks	.194	[a]	.212	.103	.404	.411	-.231	-.151	.232	.073	23
p						.051					
Birth Control	.184	[a]	.439	.137	.071	.563	.136	.312	.284	.180	27
p			.022*			.002*					
Venereal Disease	.067	-.399	.448	.377	.121	.240	.092	.087	.182	.124	20
p			.048*								
Terminology Check	.150	-.105	.152	.228	.224	.154	.085	.155	.203	.274	96
p				.025*	.028*				.048*	.007*	

* = $< .05$
[a] = correlation could not be computed

Table 19

Pearson Correlation Coefficients Between Community Residents' Part II ABS Scores and Knowledge Score per Subtest

	Violent	Anti-Social	Rebel	Untrust-worthy	With-drawal	Stereo & Odd	Inter-personal	Unaccept. Vocal	Eccen-tric	Self Abuse	Hyper-Active	Sexually Aberrant	Psych Disturb	Medica-tion	N
Anatomy	-.282	-.150	-.178	.020	-.216	-.171	-.215	-.113	.083	-.039	-.149	-.178	-.159	.093	96
p	.005*				.034*		.036*								
Dating	a	-.469	-.167	-.201	-.123	.168	-.127	.114	a	a	-.201	a	-.137	-.144	26
p		.016*													
Marriage	.291	.210	.249	.230	.039	.341	-.079	.360	.022	a	.266	.184	.427	.174	32
p													.015*		
Intimacy	-.248	-.245	-.207	.027	-.386	-.248	-.397	-.214	a	a	-.173	-.058	-.078	-.395	19
p															
Intercourse	-.137	-.029	.043	.178	.126	.126	-.145	-.154	.127	.179	.150	.022	.133	.036	27
p															
Pregnancy	-.347	-.278	-.411	-.097	-.312	-.247	-.484	-.190	a	-.110	-.278	-.247	-.363	-.270	18
p							.042*								
Menstruation	a	.278	.206	-.063	-.150	.403	-.136	.200	a	a	.308	.403	.265	-.161	23
p															
Masturbation	a	.070	.283	-.170	-.085	-.085	.199	0.0	a	a	.258	.266	.120	.200	22
p															
Homosexuality	a	.126	.033	.143	-.331	a	-.364	-.059	a	.161	.042	.015	.120	.301	30
p							.048*								
Alcohol & Drugs	-.298	.092	-.074	-.071	-.104	.110	-.274	.307	a	a	.010	.006	.043	.011	26
p															
Community Risks	a	.046	.121	-.065	.234	.171	.008	.265	a	a	.358	.244	.188	.260	23
p															
Birth Control	-.058	.237	.030	.180	-.332	-.211	.234	-.043	-.001	a	-.082	.131	.142	.077	27
p															
Venereal Disease	.177	.015	-.048	-.274	.130	.044	.200	-.254	a	a	-.261	-.092	.140	.019	20
p															
Terminology Check	-.259	-.117	.155	-.056	-.006	-.023	-.305	-.024	.145	.074	-.044	-.080	-.073	-.116	96
pp	.011*						.003*								

* = .05 or less
a = Coefficient could not be computed

Attitudes

In nine subtests, a total of 40 questions elicited attitudes or opinions for which there was insufficient consensual criteria to be viewed as either correct or incorrect. They were classed as Type II questions, coded as positive, neutral, or negative in tone, and assigned the numerical values of 2, 1, and 0 respectively. To determine whether the four groups differed significantly from one another in attitude toward any of the items, a two-way analysis of variance was computed, with results as summarized in Table 20. This table shows the F values for each Type II item in the nine subtests. The confidence levels are shown for each instance in which $p < .05$. It can be noted that males were more positive than females in responses to five items, and females more positive than males in response to two items. Institutional residents were more positive than community residents in response to two items. On four items there was in interaction of sex x residence. In each such instance, community males and institutional females had more positive attitudes toward the practices than institutional males and community females.

Another way of examining attitudes is to tabulate the frequency of positive, neutral, and negative replies to questions and to compare groups in terms of the percentages of positive, neutral, or negative answers. Table 21 presents such an analysis of responses from the subjects tested. This table presents the question asked, followed by the percentage of the total number of Type II responses from each of the groups that were positive, neutral, or negative. The number of subjects in each group who received this portion of the test is shown in the righthand column of the table.

Several interesting points can be noted in this table, among them the fact that, across subtests, the community females were the most conservative. Additional points are presented below under separate headings for each subtest.

Dating - The notion of dating is somewhat unclear to subjects. However, by far, most thought that it was not OK for a married person to date a person they were not married to. Some thought it possible for a man to date another male and for a female to date a female. Community males were, surprisingly, especially positive with respect to kissing, naked embrace, and intercourse on or after a first date. The greatest difference between groups on this subtest was apparent between the community males and the community females.

Marriage - Institutional residents, males and females alike, were more positive than the community residents about wanting to get married.

Intimacy - In this subtest, the propriety of naked touching is intended to refer to a couple who are married. A

Table 20

F Values for 2-Way (Sex by Residence)
Analysis of Variance on Attitude Items

Subtest	Item	F for Sex	p[a]	Higher[b]	F for Residence	p[a]	Higher[b]	F for Interaction	p[a]	N
Dating	1/65	0.017	-		1.399	-		0.497	-	47
	1/68	3.311	-		1.279	-		0.029	-	
	1/69	0.421	-		0.461	-		3.414	-	
	1/71	1.558	-		0.033	-		7.442	.009[c]	
	1/72	1.774	-		0.327	-		1.091	-	
	1/73	0.807	-		0.144	-		1.656	-	
	1/76	1.104	-		0.462	-		4.818	.032[c]	
	1/77	0.712	-		0.066	-		3.711	-	
Marriage	2/7	0.576	-		5.830	.018	Inst.	1.098	-	62
Intimacy	2/19	0.400	-		0.068	-		4.405	.041[c]	37
	2/20	0.305	-		1.057	-		1.614	-	
Intercourse	2/32	8.365	.006	Males	0.018	-		3.002	-	45
	2/33	0.294	-		0.913	-		3.913	-	
	2/34	2.755	-		0.090	-		0.016	-	
	2/49	0.513	-		0.440	-		1.440	-	
	2/55	12.152	.002	Males	2.271	-		1.951	-	
Pregnancy	2/58	0.964	-		0.318	-		6.536	.014[c]	40
	2/79	0.027	-		5.525	.023	Inst.	0.001	-	
Masturbation	3/25	0.041	-		0.000	-		0.078	-	57
	3/26	0.435	-		0.108	-		0.021	-	
	3/29	0.357	-		0.331	-		1.000	-	
	3/31	5.576	.021	Males	0.651	-		0.275	-	
	3/32	5.019	.028	Males	0.059	-		0.261	-	
	3/35	0.132	-		0.238	-		3.721	-	
	3/37	2.214	-		2.255	-		0.318	-	
	3/38	9.807	.003	Males	0.032	-		0.359	-	
Homosexuality	3/41	1.444	-		2.399	-		0.442	-	58
	3/42	0.011	-		0.329	-		1.036	-	
	3/44	4.362	.039	Females	1.668	-		0.881	-	
	3/48	0.013	-		0.765	-		0.012	-	
	3/49	0.027	-		0.027	-		0.028	-	
	3/51	0.328	-		0.270	-		1.193	-	
	3/54	0.485	-		0.138	-		0.073	-	
Alcohol & Drugs	3/56	0.008	-		1.798	-		0.454	-	56
	3/58	0.135	-		0.004	-		2.397	-	
	3/60	0.441	-		0.350	-		2.452	-	
	3/62	6.310	.014	Females	0.758	-		1.715	-	
	3/69	0.034	-		0.292	-		0.004	-	
Community Risks	4/7	0.009	-		3.809	-		1.053	-	54
	4/8	2.796	-		0.063	-		1.393	-	

Key: [a]where $p < .05$
[b]Direction of difference; group which scored significantly more positive
[c]Community males and institutional females were more positive than institutional males and community females.

comparison of responses to the question which is asked in the Dating section with the same question (same picture) in this section which follows the section on Marriage shows some discrimination by the subjects, as all groups were more positive when they considered the picture to be of married people. Interestingly, it was the institutional women whose responses are best differentiated across the two (Dating vs. Intimacy) situations.

Intercourse - Shown the intercourse picture, males were significantly more positive than females to the question "Is it OK to do this?" with a marked difference between the community males and community females. Although most subjects said it was not OK to do (have intercourse) with someone they were not married to, most members of three groups thought it OK to do with an opposite sex "friend."

Pregnancy, Childbirth, and Childrearing - To the question "Why do people have children?" the most positive responses were from institutional girls, and the least positive from institutional males. The institutional males, however, agreed with females in positive responses to "Do you want to be a mother/father?"

Masturbation - Male masturbation was negatively regarded by most. Almost half the males, however, condoned female masturbation. Unpleasant consequences were supplied by most subjects to the question "What can happen if he (or she) does this?" Few females gave positive reasons for "why" people play with themselves.

Homosexuality - Although most subjects were negative about both male and female homosexuality, community males were most unanimously negative about a male:male relationship.

Alcohol and Drugs - With the exception of the community females, the subjects were about equally divided in attitude pro or con the consumption of beer, wine, or whiskey. Interestingly, across the board, females gave more positive reasons in explanation of why people drink.

Community Risks and Hazards - In general, subjects were negative with respect to hitchhiking by either men or women. Curiously, men were strongly negative. The examiners feel some question, however, about the validity of this result because of comments by some subjects about the pictures, indicating that some, at least, were responding to the hitchhikers' being in the road rather than on the curb. Negative responses may thus have been directed toward hiker's position in the road and rather than to their efforts to hitch a ride.

Table 21

Percentage of Negative, Neutral and Positive Responses per Attitude Item by Group

Item	Question	Group	% Negative	% Neutral	% Positive	N
		Dating (N=47)				
1/65	OK for married person to date someone not married to?	FI	67	0	33	9
		MI	70	10	20	10
		FC	89	0	11	18
		MC	80	0	20	10
Total			78.7	2.1	19.1	47
1/68	OK for this person (male) go on date with this person? (Male same age)	FI	67	0	33	9
		MI	80	10	10	10
		FC	78	0	22	18
		MC	100	0	0	10
Total			80.9	2.1	17.0	47
1/69	OK for this person (female) go on date with this person? (Female same age)	FI	56	0	44	9
		MI	70	10	20	10
		FC	89	0	11	18
		MC	60	0	40	10
Total			72.3	2.1	25.5	47
1/71	On first date OK for them do this? (Clothed kissing)	FI	11	0	89	9
		MI	30	10	60	10
		FC	44	0	56	18
		MC	0	0	100	10
Total			25.5	2.1	72.3	47
1/72	On first date OK do this? (Naked embrace)	FI	67	0	33	9
		MI	60	10	30	10
		FC	72	0	28	18
		MC	40	0	60	10
Total			61.7	2.1	36.2	47
1/73	On first date OK do this? (Intercourse)	FI	67	0	33	9
		MI	70	10	20	10
		FC	78	0	22	18
		MC	50	0	50	10
Total			68.1	2.1	29.8	47
1/76	After many dates OK to do this? (Naked embrace)	FI	33	0	67	9
		MI	50	10	40	10
		FC	72	0	28	18
		MC	30	0	70	10
Total			51.1	2.1	46.8	47
1/77	After many dates OK do this? (Intercourse)	FI	44	0	56	9
		MI	60	10	30	10
		FC	67	0	33	18
		MC	30	0	70	10
Total			53.2	22.1	44.7	47

Table 21, Con't.

Item	Question	Group	% Negative	% Neutral	% Positive	N
		Marriage (N=62)				
2/7	Do you want get married?	FI	11	5	83	18
		MI	9	18	73	11
		FC	44	5	50	18
		MC	33	0	67	15
Total			25.8	6.5	67.7	62
		Intimacy (N=37)				
2/19	Is it OK for them to be doing this? (Naked touching)	FI	30	0	70	10
		MI	57	0	43	7
		FC	64	0	36	11
		MC	22	0	78	9
Total			43.2	0	56.8	37
2/20	Why do people do this? (Naked touching)	FI	10	60	30	10
		MI	29	71	0	7
		FC	36	9	55	11
		MC	11	44	44	9
Total			21.6	43.2	35.1	37
		Intercourse (N=45)				
2/32	Is it OK for them to do this? (Intercourse)	FI	67	0	33	9
		MI	56	0	44[a]	9
		FC	91	0	9	11
		MC	31	0	69[a]	16
Total			57.8	0	42.2	45
2/33	Why do people do this? (Intercourse)	FI	11	11	78	9
		MI	11	56	33	9
		FC	45	18	36	11
		MC	19	19	62	16
Total			22.2	24.4	53.3	45
2/34	Is it OK for them do this if they not married? (Intercourse)	FI	89	0	11	9
		MI	67	0	33	9
		FC	91	0	9	11
		MC	69	6	25	16
Total			77.8	2.2	20	45
2/49	Is it OK do this with boy/girl friend (intercourse with friend of opposite sex)	FI	33	0	67	9
		MI	44	0	56	9
		FC	64	0	36	11
		MC	38	0	62	16
Total			44.4	0	55.6	45
2/55	How does it feel to do this? (Scolded person, smiling face, frowning face)	FI	100	0	0	9
		MI	44	0	56	9
		FC	100	0	0	11
		MC	75	0	25	16
Total			80	0	20	45

Table 21, Con't.

Item	Question	Group	% Negative	% Neutral	% Positive	N
		Pregnancy (N=40)				
2/58	Why do people have children?	FI	0	30	70	10
		MI	0	83	17	12
		FC	10	60	30	10
		MC	0	50	50	8
Total			2.5	57.5	40	40
2/79	Do you want be a mother/father?	FI	0	20	80	10
		MI	8	0	92	12
		FC	40	0	50	10
		MC	38	0	62	8
Total			20	5	75	40
		Masturbation (N=57)				
3/25	Is it OK to do this? (Male masturbation)	FI	81	0	19	16
		MI	70	12	18	17
		FC	79	0	21	14
		MC	80	0	20	10
Total			77.2	3.5	19.3	57
3/26	Why?	FI	63	31	6	16
		MI	59	29	12	17
		FC	64	36	0	14
		MC	60	30	10	10
Total			61.4	31.6	7.0	57
3/29	What can happen if he does this? (Male masturbation)	FI	56	0	44	16
		MI	53	0	47	17
		FC	36	0	64	14
		MC	60	0	40	10
Total			50.9	0	49.1	57
3/31	Is it OK to do this? (Female masturbation)	FI	88	0	12	16
		MI	53	0	47[a]	17
		FC	71	0	29	14
		MC	50	0	50	10
Total			66.7	0	33	57
3/32	Why?	FI	75	25	0	16
		MI	41	53	6[a]	17
		FC	64	36	0	14
		MC	50	40	10[a]	10
Total			57.9	38.6	3.5	47
3/35	What can happen if she does this?	FI	75	25	0	16
		MI	53	41	6	17
		FC	43	57	0	14
		MC	70	30	0	10
Total			59.6	38.6	1.8	57

Table 21, Con't.

Item	Question	Group	% Negative	% Neutral	% Positive	N
		Masturbation, Con't.				
3/37	Why do people play with themselves?	FI	44	38	18	16
		MI	6	82	12	17
		FC	7	79	14	14
		MC	10	60	30	10
Total			17.5	64.9	17.5	57
3/38	If people play with themselves, how do they feel? (Frowning face, scolded person, smiling face)	FI	81	0	19	16
		MI	47	6	47[a]	17
		FC	86	0	14	14
		MC	40	0	60[a]	10
Total			64.9	1.8	33.3	57
		Homosexuality (N=58)				
3/41	Is it OK do this (male homosexual embrace)?	FI	56	0	44	16
		MI	58	8	33	12
		FC	64	0	36	11
		MC	90	0	10	19
Total			59	1.7	29.3	58
3/42	Why?	FI	56	38	6	16
		MI	42	50	8	12
		FC	55	27	18	11
		MC	68	26	5	19
Total			56.9	34.5	8.6	58
3/44	What can happen if two men do this together? (Male homosexual embrace)	FI	56	38	6	16
		MI	67	33	0	12
		FC	18	73	9	11
		MC	63	37	0	19
Total			53.4	43.1	3.4	58
3/48	Is it OK do this? (Female homosexual embrace)	FI	62	0	38	16
		MI	58	8	33	12
		FC	73	0	27	11
		MC	74	0	26	19
Total			67.2	1.7	31	58
3/49	Why?	FI	62	31	6	16
		MI	50	50	0	12
		FC	64	18	18	11
		MC	68	16	16	19
Total			62.1	27.6	10.3	58
3/51	What can happen if two women do this together? (Female homosexual embrace)	FI	50	50	0	16
		MI	42	58	0	12
		FC	27	65	9	11
		MC	58	37	5	19
Total			46.6	50	3.4	58

Table 21, Con't.

Item	Question	Group	% Negative	% Neutral	% Positive	N
		Homosexuality, Con't.				
3/54	If two men kiss and hug or two women kiss and hug, how do they feel? (Scolded person, frowning face, smiling face)	FI	75	0	25	16
		MI	58	8	33	12
		FC	73	0	27	11
		MC	58	0	42	19
Total			65.5	1.7	32.8	58
		Alcohol and Drugs (N=56)				
3/56	Is it OK drink this? (Beer)	FI	40	0	60	15
		MI	50	0	50	14
		FC	71	0	29	14
		MC	54	0	46	13
Total			53.6	0	46.4	56
3/58	Is it OK drink this? (Wine)	FI	47	0	53	15
		MI	71	0	29	14
		FC	71	0	29	14
		MC	46	0	54	13
Total			58.9	0	41.1	56
3/60	Is it OK drink this? (Whiskey)	FI	53	0	47	15
		MI	65	0	36	14
		FC	79	0	21	14
		MC	54	0	46	13
Total			62.5	0	37.5	56
3/62	Why do people drink beer, liquor, wine or whiskey?	FI	7	27	67	15
		MI	7	50	43	14
		FC	14	7	79	14
		MC	38	23	38	13
Total			16.1	26.8	57.1	56
3/69	Is it OK to drink beer, whiskey, wine or liquor?	FI	53	0	47	15
		MI	50	0	50	14
		FC	64	0	36	14
		MC	54	0	46	13
Total			55.4	0	44.6	56
		Community Risks and Hazards (N=54)				
4/7	She is hitchhiking, is it OK for woman to hitchhike?	FI	75	0	25	16
		MI	64	0	36	14
		FC	88	0	12	16
		MC	100	0	0	8
Total			79.6	0	20.4	54
4/8	Is it OK for man to hitchhike?	FI	62	0	38	16
		MI	71	0	29	14
		FC	44	6	50	16
		MC	88	0	12	8
Total			63	1.9	35.2	54

Key: FI = Female Institution FC = Female Community [a] = M F $p < .05$
MI = Male Institution MC = Male Community

Relationship Between Knowledge and Attitudes

In examining possible relationships between attitudes and extent of knowledge, it should be recalled that attitudes were in response to a few particular questions within certain subtests, that the knowledge questions touched areas that were not completely paralleled by attitude questions, and, that the internal consistency of the knowledge questions differed somewhat from one subtest to another. These qualifications should be borne in mind in examining the coefficients in Table 22. Based upon these data, it appears that positive or negative attitudes in about half of the items were related at moderate levels to subjects' knowledge scores on several subtests and especially to scores on the Homosexuality items. Interpretation of the significant correlations in this table must take into account that a positive correlation indicates a relationship between positive attitudes and a high knowledge score, and more negative attitudes related to less knowledge; whereas a negative correlation indicates a relationship between positive attitudes and a low knowledge score, and/or more negative attitudes in relation to a high knowledge score.

Relation Between Knowledge and the Amount the Subject Felt He Knew

For each subtest except Terminology Check, the subject was asked if he knew a lot, a little, or nothing about the area. Table 23 shows the division of responses across these categories in terms of percent of each attitudinal category of response to those questions by subjects in each of the four groups.

Most subjects were able to use the response options appropriately; but a small number of responses that did not fit the attitudinal categories were coded as "other."

The data in Table 23 indicate that, across groups, subjects felt most knowledgeable about Community Risks and Hazards, and slightly less knowledgeable about Dating. The subtest yielding the highest percent of "know nothing" responses was Venereal Disease, closely followed by Alcohol and Drugs, Masturbation, and Intercourse.

To determine whether the extent of knowledge that a subject thought he possessed was related to his actual knowledge scores, Pearson Product Moment correlations were computed. The coefficients are listed in Table 24 where moderate relationships are apparent for the subtests on Anatomy, Dating, Menstruation, Masturbation, (all positive) Alcohol and Drugs (an inverse relation), Community Risks, and Venereal Disease (both positive).

Table 22

Pearson Product-Moment Correlation Coefficients Between the 40 Attitude Items and the Knowledge Score per Subtest

Subtest	Attitude Item	Coefficient	p	N
Dating	1/65	-.137	.355	47
	1/68	-.308	.036*	
	1/69	-.224	.131	
	1/71	.446	.002*	
	1/72	.010	.945	
	1/73	.028	.851	
	1/76	.253	.087	
	1/77	.146	.328	
Marriage	2/7	.159	.216	62
Intimacy	2/19	-.376	.022*	37
	2/20	.263	.115	
Intercourse	2/32	.098	.522	45
	2/33	a	-	
	2/34	.324	.030*	
	2/49	.196	.197	
	2/55	.384	.009*	
Pregnancy	2/58	.304	.057	40
	2/79	.012	.940	
Masturbation	3/25	-.239	.074	57
	3/26	-.216	.106	
	3/29	-.292	.027*	
	3/31	-.080	.556	
	3/32	-.140	.301	
	3/35	-.421	.001*	
	3/37	.150	.264	
	3/38	-.153	.256	
Homosexuality	3/41	-.568	.001*	58
	3/42	-.421	.001*	
	3/44	-.393	.002*	
	3/48	-.480	.001*	
	3/49	-.355	.006*	
	3/51	-.325	.013*	
	3/54	-.069	.605	
Alcohol	3/56	.304	.023*	56
	3/58	.081	.553	
	3/60	-.046	.735	
	3/62	.258	.055	
	3/69	.242	.072	
Community Risks	4/7	-.630	.001*	54
	4/8	-.458	.001*	

Key: * = .05 or less
a = could not be computed

Table 23

Percentage of Know a Lot, Know a Little, and Know Nothing (Type III) Responses by Groups

3

Item		% Lot	% Little	% Nothing	% Other	N
Anatomy	FI	32	44	20	4	50
1/40	MI	49	24	18	8	49
	FC	38	26	34	2	50
	MC	52	26	22	0	50
Total		43	30	24	3	199
Dating	FI	56	22	22	0	9
1/57	MI	20	50	10	20	10
	FC	33	61	6	0	18
	MC	40	50	10	0	10
Total		36	49	11	4	47
Marriage	FI	11	56	33	0	18
1/78	MI	45	45	9	0	11
	FC	44	28	28	0	18
	MC	33	40	27	0	15
Total		23	42	25	0	62
Intimacy	FI	50	30	20	0	10
2/18	MI	29	29	43	0	7
	FC	27	36	36	0	11
	MC	56	11	33	0	9
Total		41	27	32	0	37
Intercourse	FI	22	33	44	0	9
2/31	MI	33	11	55	0	9
	FC	27	27	45	0	11
	MC	38	25	31	6	16
Total		31	24	42	2	45
Pregnancy	FI	20	70	10	0	10
2/57	MI	17	58	17	8	12
	FC	20	70	10	0	10
	MC	63	12	25	0	8
Total		28	55	15	2	40
Menstruation	FI	31	54	15	0	13
3/18	MI	10	20	30	40	10
	FC	63	25	12	0	8
	MC	13	47	40	0	15
Total		26	39	26	9	46
Masturbation	FI	19	44	31	6	16
3/24	MI	12	41	35	12	17
	FC	21	14	64	0	14
	MC	40	20	40	0	10
Total		21	32	42	5	57

Table 23, Con't.

Item		% Lot	% Little	% Nothing	% Other	N
Homosexuality	FI	50	25	19	6	16
3/40	MI	42	17	25	17	12
	FC	18	27	55	0	11
	MC	26	32	32	10	19
Total		35	26	31	8	58
Alcohol & Drugs	FI	40	33	27	0	15
3/61	MI	29	14	57	0	14
	FC	29	36	36	0	14
	MC	23	15	62	0	13
Total		30	25	45	0	56
Community Risks	FI	56	19	19	6	16
3/78	MI	57	36	0	7	14
	FC	56	31	13	0	16
	MC	75	25	0	0	8
Total		59	28	9	4	54
Birth Control	FI	33	56	11	0	9
4/30	MI	17	33	44	6	18
	FC	29	29	43	0	7
	MC	41	27	32	0	22
Total		30	34	34	2	56
Venereal Disease	FI	11	22	56	0	9
4/54	MI	46	15	23	15	13
	FC	8	25	67	0	12
	MC	0	50	50	0	10
Total		18	30	48	4	44

Key: FI = Female Institution
MI = Male Institution
FC = Female Community
MC = Male Community

Table 24

Pearson Correlation Coefficients for Relationships Between Type III Items and Knowledge Score per Subtest

Area	Type III Item	Coefficient	p	N
Anatomy	1/40	.268	.001*	199
Dating	1/57	.388	.007*	47
Marriage	1/78	-.022	.863	62
Intimacy	2/18	.042	.807	37
Intercourse	2/31	-.190	.212	45
Pregnancy	2/57	.022	.892	40
Menstruation	3/18	.488	.001*	46
Masturbation	3/24	.405	.002*	57
Homosexuality	3/40	.130	.333	58
Alcohol & Drugs	3/61	-.305	.022*	56
Community Risks	3/78	.393	.033*	54
Birth Control	4/30	.183	.177	56
Venereal Disease	4/54	.497	.001*	44

* $p = < .05$

5

DISCUSSION

Introduction

The shift in public attitude from one of segregating the retarded to one of preparing them to live as normally as possible has led to special concern about their vulnerability to hazards of certain kinds. Edgerton (1967) in his descriptions of former institutional residents, dwelt upon the importance they attached to getting married. He identified the areas of sex, marriage, and reproduction as a general "central concern." He concluded from his follow-ups that "sexual matters were an ever-threatening source of trouble." (p. 111). For some, this had been a reason for institutional placement. He felt that for all after discharge there was the hazard that sexual desire might lead to "prostitution, promiscuity, child molestation, rape, or general infection, and...produce all manner of interpersonal conflict" (p. 111).

Although many of the problems that the retarded must resolve in order to live with any degree of independence in the community are related to economic matters, the quality of their lives is surely more dependent upon the ability to satisfy the universal human need for social approval, acceptability, companionship, and love. It can be no wonder that they attach so much importance to marriage and parenthood.

Curricula and visual materials to teach the retarded to function more appropriately in these areas are now available and other materials are in stages of development (Edmonson, Mays, Wish and Fiechtl, 1977). What has been needed is an inventory or a test as a way of determining where to begin with socio-sexual instruction, and a way of determining what they have learned consequent to instruction.

To test the retarded poses special problems of grasping the sense of often imperfect expressive language, of differentiating between actual knowledge and a lucky guess, and of determining whether erroneous responses reflect knowledge base or deficits in the mode of communication. Wish (Edmonson and Wish, 1975) demonstrated via his method of extensive probing that moderately retarded adults often know more than is evident

in their initial verbal response. His method, however, requires examiner skill; is time consuming; and does not eliminate the problem of incomprehensible responses. The present instrument was thus designed so that subjects could answer most knowledge questions on 12 subtests by pointing to one of a set of pictures. They could indicate their answer to almost all attitude questions by pointing to a smiling, frowning, or neutral face, or by a "yes" or "no". Verbal responses, however, were required to all questions in the Anatomy Terminology subtest. In addition, typically one question in 12 of the other subtests asked for a verbal term for whatever was shown in the picture. By this method, moderately and severely retarded persons could be tested.

The following sections refer, first, to test reliability, then to a discussion of differences in the general knowledge and attitudes depending upon subtests; then to differences that were noted between male and female subjects and between institutional and community residents. The relationships noted between subtest scores and Adaptive Behavior Scale ratings and levels are briefly discussed; then a comparison of the results with data reported by Fischer and Krajicek (1974a, 1974b), Hall, Morris and Barker (1973) and Hall and Morris (1976) from use of their tests.

Test Reliability

Reliability was examined in two ways as was described in Chapter 3. The stability of responses, which would indicate whether the subjects were merely guessing or were expressing fixed beliefs, was determined by the percent of agreement between responses given to two administrations of the test to samples of 50 men and 50 women, half of whom were residents in an institution and half residents in the community.

The other type of reliability examined was the extent to which the test questions tapped some pool of knowledge or attitude that might be consistent across all items in a subtest. This was determined by the Kuder-Richardson coefficients presented in Tables 6 and 7.

That there was some guessing by the respondents was apparent in some changed responses given by the retest sample. However, the high level of response agreement ranging from 78 to 90 percent for knowledge items, as shown in Table 2, and from 76 to 91 percent for attitude items in the subtests, as shown in Table 3, shows that for the most part fixed beliefs and attitudes were measured.

The subtests for which knowledge responses were least stable were Homosexuality (78.2%), Masturbation (78.6%) and Birth Control (78.9%), and those for which attitudes were least stable were Intimacy (76.0%), Alcohol and Drugs (78.2%), and Intercourse (79.0%). These levels of agreement, however, fully warrant use of the test for group data.

Contrasting with the subjects' stable knowledge and attitude responses, were their responses to questions as to how much they thought they knew about a subtest area. The range of percent agreement, from 51 to 82 percent as shown in Table 4, indicates the fluctuation was greatest for Anatomy Terminology (51.0%), Intimacy (56.5%), and Birth Control (61.5%).

The spread of Kuder-Richardson coefficients as shown in Table 6 may be useful in showing the extent to which the subjects' knowledge (or attitudes) is more or less evenly spread across all items in a subtest. As an example, the low coefficient for the Dating item 1/59 shows that subjects' responses to the question "Is it OK for a boy-friend and girlfriend who date each other to hold hands in a workshop (picture of workshop)?" ("No" is correct) would not be predictive of subjects' score for the subtest.

As was stated in Chapter 3, the consistency of the subtests could be improved by eliminating certain items that are not homogeneous with others and by removing unusually difficult and unusually easy questions. The questions all seem relevant, however, and it is important to learn whether subjects know or do not know the answers to particular questions whether or not he is correct or incorrect in his responses to other items in the subtest.

What They Know -- How They Feel

How capable are moderately and severely retarded adults of acquiring useful socio-sexual knowledge? What is their knowledge with respect to anatomy terminology, dating, intimacy, intercourse, pregnancy and childbirth, menstruation, masturbation, homosexuality, alcohol and drugs, community hazards and venereal disease, and what are their attitudes toward these areas? With respect to which areas are they most knowledgeable and of which the least? Have parents and others generally avoided providing them information about these topics as seems indicated by many published reports? Do men and women differ from one another in knowledge and attitudes? Are community residents more knowledgeable than institutional residents? Do they differ in attitudes?

The results from tests administered to 99 residents of a state institution and 100 residents in their own or in group homes in Columbus, Ohio will be highlighted here, compared with data obtained by others, and discussed in relation to the above questions.

Knowledge

The subjects received a knowledge score for each subtest based upon their right answers to Type I questions. Certain higher level verbal responses were given two points; other lower level but correct responses received one point. As an example reference to baby, feeding baby, or milk were 2 point responses to the anatomy question "What is this (woman's breast) for?" While reference to brassiere was a 1 point response.

As an indication of their knowledge; and "about what"; the total possible score for knowledge type questions for each subtest was divided into the average score subjects actually obtained, yielding a mean percent correct figure for each subtest for each of the four groups (institutional males, institutional females, community males, community females).

Areas of greatest knowledge and those of least, and differences between the groups, can be noted from the mean percent correct data in Table 14 in Chapter 4. The Anatomy Terminology subtest, requiring

verbal responses throughout, interestingly proved one of the easiest -- the mean score for the combined groups attaining 70 percent of the possible score for this subtest. Less surprisingly, the combined groups were less knowledgeable about Birth Control, the mean score representing only 38 percent of possible; and the combined groups answered only about half of the Venereal Disease and the Homosexuality items correctly. It would appear from the differences in percent correct data in Table 14 that these subtest differences reflect what the subjects had been taught or exposed to. It is encouraging to note from the table that the community residents attained approximately two-thirds of the maximum possible scores on Anatomy Terminology, Dating, Marriage, Intimacy, and Intercourse; and that community women scored as well on Pregnancy and Menstruation. This must indicate that parents and/or teachers are providing instruction. The fact of the subjects' assimilation of knowledge in certain areas suggests that these individuals could learn more about the other subtest areas if they were provided appropriate instruction.

The groups somewhat differed in knowledge as was shown by significant F ratios in Table 12 based on subtest scores. Group differences on item scores are shown in the table in Appendix B. Females were revealed as more knowledgeable than males with respect to Menstruation and Birth Control. In other subtests, the sexes were more equal with females superior to males with respect to certain items, and males superior to females with respect to certain others (Appendix B). Community residents were superior to institutional residents in terms of their mean scores for the Intercourse and the Terminology Check subtests, as shown in Table 12, but, with respect to particular items the superiority was mixed as shown in Appendix B. Of particular interest was the marked difference between the men and women institutional residents. This is indicated in part by the significant interaction data in Table 12 and the table in Appendix B. Reference to Table 14 shows that the institutional females were a fairly knowledgeable group whose overall scores matched and slightly exceeded those of the community residents. Their mean scores were somewhat higher than those of the other samples on the five subtests of Dating, Marriage, Intercourse, Menstruation and Birth Control. Table 14 also indicates that the institution and the community males differed from one another in knowledge. In fact, the institutional males comprised the least knowledgeable group, scoring lower than the others on Anatomy Terminology, Dating, Pregnancy, Alcohol and Drugs, Birth Control, and Venereal Disease.

Explanations for the contrast in knowledge between the institutional males and females are not forthcoming from the present study. No formal instruction had been provided either sex in the institution, and their average term of residence had been 16 years. The women averaged only 5 months older and 1-1/2 IQ points higher than the men. The possibility of different pre-institutional histories leading to different reasons for institutional placement could not, in the interests of confidentiality, be ascertained. One might speculate that in the process of de-institutional placement, a higher proportion of competent men had been released than had been true of the women, thus decreasing the proportion of well adjusted men still remaining in the institution.

Attitudes

The subjects' responses to certain questions in each subtest were coded as positive, neutral, or negative in tone, and assigned numerical values of 2, 1, and 0 respectively. Thus, the higher a subject's score, the more positive his attitude toward the practices he was questioned about. In terms of these scores, males gave significantly more positive responses than females to questions regarding the intercourse picture. "Is it OK for them to do this?" and "How does it feel to do this?" They similarly differed in response to three questions about female masturbation, as shown in Table 20. Conversely, females responded more positively than males in response to the question to the male homosexuality picture "What can happen if two men do this together?" and also to a question concerning use of liquor.

Possibly reflecting the belief that being married and being a parent is normal and that normalcy means getting, and remaining out of the institution, the institutional residents were more positive than community residents to "Do you want to get married?" and "Do you want to be a mother/father?"

On four items with respect to Dating, Intimacy, and Pregnancy, community males and institutional females were significantly more positive than other residents, expecially the community females. The questions were "On their first date is it OK for them to do this?" (picture of clothed persons kissing); "After many dates, is it OK for them to do this?" (unclothed embrace); "Is it OK for them to be doing this?" (unclothed touching); "Why do people have children?"

As an additional way of comparing attitudes, the frequencies of positive, neutral, and negative responses by members of the four groups were tallied for each item, with results shown in Table 21. The reader is referred to the discussion on pages 45 and 47, but may note additional points of interest by reference to the table.

Relationships Between Knowledge and Attitudes and the Amount Subjects Felt They Knew

The correlations between subjects' knowledge and attitude scores shown in Table 22 indicate generally that subjects with more knowledge about Masturbation, Homosexuality, and Community Risks and Hazards tended to express negative attitudes toward the practices. This relationship was also noted in relation to questions if it is OK for a married person to date someone he or she was not married to, whether it is OK to date a person of the same sex, and whether naked touching is OK. Attitudinal discrimination by the more knowledgeable was apparent in their positive attitude toward kissing on a first date and the use of liquor.

For each subtest except Terminology Check, the subject was asked if he knew a lot, a little, or nothing, and responses were coded 2, 1,

and 0 respectively. The correlations between these "amount felt known" scores and subjects' knowledge scores as shown in Table 24, indicate a moderate realism with respect to Anatomy, Dating, Menstruation, Masturbation, Community Risks and Hazards, and Venereal Disease; but there was a zero order correlation between the amount the subjects felt they knew and their knowledge scores on Marriage, Intimacy, Intercourse, Pregnancy, Homosexuality, and Birth Control. There was actually an inverse relationship between knowledge of Alcohol and Drugs and the amount the subject felt he knew about that area.

Sex Knowledge and Adaptive Behavior

Prior to discussing the relationship between adaptive and maladaptive behavior and subjects' sex knowledge, one point to be made is that the subjects were truly retarded. That is, they met the dual criteria of significantly sub-average IQ's and adaptive behavior ratings.

Institution. The institutional residents had levels of adaptive behavior (AB) ranging from mild to profound as shown in Table 15. For computation, the three lowest level (AB level 4) subjects were pooled with those at level 3, and the differences in mean knowledge scores compared across AB levels.

Use of the Scheffe method of multiple comparisons indicated significant differences on 11 of the 18 comparisons of the mean knowledge scores of the three AB groups. The comparison of persons at AB level 3 with these at AB levels 1 or 2 accounted for 10 of the 11 comparisons achieving significance. The only difference in pattern was found for the Homosexuality subtest for which the mean scores of persons at AB level 1 were significantly higher than those of individuals at both AB levels 2 and 3.

In conclusion, the general trend was for the highest mean knowledge scores on subtests to be attained by persons at AB level 1 while the lowest mean scores were achieved by persons at AB level 3. For 6 subtests, Anatomy, Intercourse, Homosexuality, Alcohol and Drugs, Community Risks, and Terminology Check, knowledge scores were associated with AB levels, significantly lower scores being attained by persons at AB level 3 as shown in Tables 16 and 17.

This result indicates that the institutional residents with severe deficits in adaptive behavior were seriously lacking in sexual knowledge. A probable reason is the fact that many of the AB level 3 residents had had few opportunities to interact with higher functioning individuals, and also were handicapped by poorer communicative skills. Most of the level 3 residents in the present study remained in their ward for most of the day. Even their meals were brought to them, and, aside from television, because of the heavy work load for the staff, social stimuli was provided chiefly by the other residents. [1]

[1] Subsequent to this study this situation no longer obtains at the institution. A thorough reorganization that was "on the drawing board," has since been implemented.

Community. The community residents had actual Adaptive Behavior Scale (ABS) ratings on each of the 10 adaptive scales and the 14 categories of maladaptive behavior. Thus, the coefficients of correlation between ABS ratings on each domain and the sex knowledge scores for each subtest could be examined as shown in Table 17. Though many coefficients are low, all were positive and 32 attained the less than .05 level of significance. Scores in the Anatomy Terminology subtest were related at beyond chance levels to the following of the 10 ABS domains: Independent Functioning, Economic Activity, Language, Number and Time Concepts, Domestic Activities, Self Direction, and Socialization. Ratings on the ABS domain of Economic Activity were significantly related to 8 of the 14 sex test subtests. Ratings on Domestic Activities were related to 6 subtests, ratings on Independent Functioning, Language and Number and Time Concepts to 4. Ratings on Self Direction, Responsibility, and Socialization to 2 subtests. Ratings on Physical Development and Vocational Activity proved independent of sex subtest scores.

It is probable that the associations found in this study between AB level or ABS domain ratings and sex knowledge scores are largely dependent upon the range of the subjects' intelligence levels (IQ's 23 to 74). Edmonson and Wish (1975) whose 17 recently de-institutionalized male adults were more homogeneous of IQ, (30 to 55) also obtained significant correlations between ABS ratings on several domains and the subjects' "sex comprehension" scores.[1] The mens' WAIS Full Scale IQ's were significantly related to their sex comprehension scores and also to their ratings on the ABS domains of Economic Activity and Language.

In the present study, the correlations between ABS ratings on the 14 maladaptive behavior categories and sex knowledge scores on the various subtests were also available as shown in Table 19. By far, most of the coefficients are negative as would be hoped, but only 9 of the 196 attained the .05 level, a result which might be attributed to chance. Chance is an improbable explanation, however, for the finding that 4 of the 9 significant coefficients were related to ratings on Maladaptive Interpersonal Behavior. The fact that Anatomy Terminology subtest scores accounted for three significant correlations with ratings of maladaptivity, and Terminology Check for an additional two is perhaps due to the much larger number of subjects who received those subtests.

Results Related to Others' Findings

Five recent publications have reported on sex knowledge, and, in some cases, attitudes, based upon tests or interviews designed to obtain such information from retarded persons.

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[1]See page 65 for an explanation.

Fischer and Krajicek (no date; 1974) and Edmonson and Wish (1975) were involved with small samples (N's 16 and 18 respectively) of moderately retarded persons with IQ's from 33 to 57 and from 30 to 55 for the two samples respectively. The Fischer and Krajicek sample was young (mean CA 13.6, range 10 to 17) and consisted of pupils in an urban school for trainable retarded, whereas the Edmonson and Wish sample was adult (CA range 18 to 30) and, though residents in an urban community, had spent a major part of their lives in a state institution for the retarded -- an average of 15 years.

Fischer and Krajicek sampled ability to identify parts of the body that the examiner named, and ability to name body parts that were pointed out on pictures. Subjects were asked for a term for elimination and masturbation and were to answer questions regarding menstruation, pregnancy and childbirth. Other questions sampled attitudes toward hugging, kissing, and intercourse, and reasons why people might engage in these behaviors. Their procedure was a verbal question and answer session using a structured questionnaire and a set of line drawings to illustrate items. The number of items was not specified in their report nor in their publication; nor was there any indication of response reliability.

Wish (Edmonson and Wish, 1975) sampled ability to name parts of the body which were pointed out to subjects on male and female pictures; then went on to probe what subjects understood of a set of 20 realistically drawn or photographed pictures of dating, engagement, marriage, intercourse, pregnancy, childbirth, parents leaving hospital with new baby, a Playboy cover, masturbation, homosexual embrace, and drunkenness. Questions and extensive probes were intended to elicit what a subject understood on a behavioral or cause and effect level, and the responses were tallied in terms of four categories: centrally relevant inferences, inferences about non-relevant portions of the scene, simple description, and error. The tally for relevant inferences was termed the sex comprehension score. A retest reliability check on responses to 33 questions for half of the sample indicated an average agreement of 78 percent across subjects and items.

Krajicek and Fischer reported a fairly good level of body terminology, and some variation in terms used for elimination, masturbation and intercourse. Most girls had a name for sanitary pads but only 50 percent could verbalize a reason for use. Boys did not differ markedly from girls in attitudes toward hugging, kissing, and intercourse. Though most could provide a term for the pictured situation, few could explain why people engage in these behaviors. Most reported babies came from the stomach or from women. All could identify the pregnant woman from pictures. Most boys "had some idea" of the birth process; girls verbalized less knowledge.

The authors found that the children wanted to learn more, and concluded that parents should take the initiative. They have also described (Fischer and Krajicek, 1974) some methods that parents, teachers, and physicians might use in discussing sexual matters with children.

Wish noted a wide difference in sex comprehension scores and errors among the men in his study. Only a third correctly answered "How does woman become pregnant?" About 60 percent could interpret the intercourse picture. Half said a baby comes from mother's stomach; 60 percent recognized a childbirth picture. Only 5 had a reasonable term for womans genitals; 12 were acceptable on breasts; and 5 were inaccurate in naming mens genitals. The men's sex comprehension score were significantly positively related to the ABS domains of Socialization, Language, and Responsibility. Body terminology scores were positively related to Independent Functioning, but were significantly negatively related to Self Direction. The authors noted the prevalence of error and misinformation intermixed with comprehension and commented on the men's need for information.

Hall, Morris and Barker (1973) and Hall and Morris (1976) reported on tests given 61 EMR pupils in special classes (IQ's from 41 to 95 and ages 10 to 25), and 105 institutional residents resembling the non-institutional sample in ages and IQ's. The number of male and female subjects in the samples was not indicated. Their instrument was a questionnaire to sample knowledge of sex, and attitudes toward self, sexuality, and interpersonal relationships. In final form, there were 21 self concept items, 22 sex attitude items, and 44 sex knowledge items. The procedure involved the presentation of written questions and sets of multiple choice answers which the subject could respond to by "yes" or "no." Subjects who could read were asked to read aloud. Others had the questions and response options read to them by the examiner. No pictures were included with the test.

Internal consistency was reported in terms of a Kuder-Richardson coefficient of .90 for the knowledge items. Test-retest reliability information was not obtained.

Hall and Morris reported that both samples could identify masturbation, menstruation, pregnancy, and sexual intercourse, but less than half were successful with venereal disease, family planning, or birth control. Fewer had any comprehension of sterilization.

The authors reported their institutional sample scored higher then community subjects on sex knowledge items, but the groups did not differ on self concept or sex attitude.

In the community group sex knowledge was significantly positively correlated with self concept, and also with sex attitude; and sex attitude was correlated with self concept. Mental age was significantly correlated with scores on the three measures; IQ with self concept; and CA with sex attitude.

In the institutional group, sex knowledge correlated with self concept and with sex attitude but the correlation between sex attitude and self concept did not attain significance. Mental age was related to sex knowledge and self concept.

It was found that sex knowledge tended to be related to residence in coed quarters, and was negatively related to number of months spent in the institution. Age of institutional residents was not related to any measure.

The authors commented on the need for greater "normalization" within institutions and of providing clear information. However, as the institutional residents had been exposed to a "family life/sex education" course, it was cautioned that a program does not assure knowledge.

The results from the present study are more detailed than those reported in the above publications, providing differential information with respect to male-female differences in knowledge and attitudes as well as differences related to place of residence. Differences were also reported as relating to particular subtest areas; even to particular items. The specific patterns of difference that were found cannot, of course, be generalized to other populations, but it is clear that group differences, even among the moderately and severely retarded, are identifiable.

Hall and Morris found their institutional residents "more knowledgeable". The present study found institutional women more knowledgeable than others with respect to certain subtests, and community men most knowledgeable with respect to certain other subtests. On many subtests, the institutional males were the lowest. The differences are doubtless due to differences in experiences and instruction.

Hall and Morris commented on the more "liberal" sex attitudes of their institutional residents. In the present study, attitudes differed depending upon sex of subject, place of residence, and the subtest topic. The institutional females and the community males could be termed generally, more liberal (positive) than the other groups.

Neither Hall and Morris nor the present authors found age related to sex knowledge; but mental age was significant for Hall and Morris, and IQ was significant in the present study.

The only prior effort to relate sex knowledge to behavioral criteria was the Edmonson and Wish (1975) report of relationships between sex comprehension scores and ratings on Adaptive Behavior Scale domains. A similar effort in the present study again showed relationships, but in some cases different domains were involved. In view of the different methods of obtaining responses in the two studies, differences in the areas sampled, and differences in the populations that were tested, the differing relationships between the response scores and the subjects' ABS ratings are viewed as validly informative.

Summary and Conclusion

The need for a specialized instrument which could assess the knowledge and attitudes of even moderately and severely retarded persons with respect to socio-sexual matters led to development and trial of the Socio-Sexual Knowledge and Attitudes Test.

The fourteen subtests sample knowledge of Anatomy Terminology, Dating, Marriage, Intimacy, Intercourse, Pregnancy and Childbirth, Menstruation, Masturbation, Homosexuality, Alcohol and Drugs, Community Risks and Hazards, Birth Control and Venereal Disease. Subjects' attitudes toward certain practices are sampled in some subtests. The amount they think they know about 12 of the subtests is also sampled.

Only minimal verbal responses are required for 13 of the subtests. In most instances, subjects can indicate their response to the examiner's questions by pointing to one of a set of multiple choice pictures or by indicating "yes" or "no."

Test and retest administrations to 50 subjects indicated the knowledge and attitude responses were quite stable, but that subjects were less certain about how much they felt they knew.

Kuder-Richardson coefficients showed some (desirable) variation in item consistency.

Data obtained from administration of the test to 100 community residents and 99 institutional residents indicated certain differences in knowledge and attitudes, related at times to subjects' sex and at times to place of residence, with respect to particular subtests or subtest items. On some subtests such as Anatomy Terminology, the subjects combined attained 70 percent of the maximum scores possible; on others such as Birth Control, Venereal Disease, and Homosexuality, they attained much lower scores.

Women were somewhat more knowledgeable than men on items pertaining to Menstruation, Pregnancy and Birth Control. Marked differences in knowledge between men in the community and those in the institution prevented the appearance of any significant difference in knowledge by the combined groups of males. Overall, the institutional males were the least knowledgeable of the groups.

Interesting differences in attitudes were found, groups and individuals revealing varying positive and negative attitudes toward sexual practices. Institutional residents were the most positive with respect to marriage and parenthood. The attitudes of the community males toward dating and intimacy could be termed liberal, and those of community females much more conservative.

Knowledge scores were related to Adaptive Behavior Scale domains or levels for both the institutional and the community residents. Community residents' knowledge scores on several subtests were inversely related to their ratings on the Interpersonal Relations domain in Part II (the maladaptive portion) of the Adaptive Behavior Scales.

The discussion of results concluded with a description of the results others have reported, using different methods to obtain information about sex knowledge and attitudes.

The reliability data from the present study, the obtained relationships between sex knowledge scores and Adaptive Behavior Scale ratings, the breadth of sex related topics that are sampled by the test, and its demonstrated ability to differentiate between individuals of relatively low IQ are evidence of the test's worth. It should be useful in conjunction with educational programs and in research.

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APPENDIX A

Social-Sexual Knowledge
and
Attitudes Questionnaire

SOCIAL-SEXUAL KNOWLEDGE
AND
ATTITUDES QUESTIONNAIRE

We are currently engaged in research to develop an instrument to assess the social and sexual attitudes, knowledge and awareness of persons with retardation. As we are now gathering information upon which to base our questions, we are requesting that you complete and return this questionnaire to help us identify social and sexual areas of particular concern and perhaps difficulty for the retarded.

What do you feel to be the major areas which a test of social and sexual knowledge must assess? Include areas you feel are most apt to lead to difficulty or failure in community adjustment.

Please give examples of specific questions or problems which you believe need to be included in a test of social and sexual awareness.

What do you believe to be common social and sexual misconceptions?

Please Respond to Items ON THIS PAGE BEFORE
Turning to the Next Page!!!

Below is a listing of content areas dealing with social-sexual matters. A rating of the following items will help us to determine which areas are most important for inclusion in an assessment of socio-sexual knowledge, attitudes and awareness of persons with retardation. Please rate each item according to the following rating scale and indicate your choice to the left of each item.

1. Area should definitely be included as part of assessment.
2. Area probably should be included as part of assessment.
3. Uncertain whether area should or should not be included.
4. Area probably should not be included as part of assessment.
5. Area definitely should not be included as part of assessment.

SEXUAL AREAS

_____ 1. Body Parts (names and labels

_____ 2. Masturbation

_____ 3. Premarital Sexual Conduct and Limits

4. Birth Control
   _____ a. Information
   _____ b. Services

5. Venereal Disease (V.D.)
   _____ a. How to contract...
   _____ b. Sumptoms of ...
   _____ c. Where and whom to go to in case of...

_____ 6. Intercourse

7. Pregnancy
   _____ a. How to get pregnant or make someone pregnant
   _____ b. How to know you are pregnant
   _____ c. What to do and where to go if...
   _____ d. How to prevent pregnancy

_____ 8. Childbirth

_____ 9. Homosexual Behavior

_____ 10. Incest and types of persons with whom intimate relationships would be inappropriate

_____ 11. Extramarital Conduct and Limits

ASSOCIATED SOCIAL-SEXUAL AREAS

_____ 1. Inappropriate Physical Contact (e.g. hugging strangers or getting too close)

_____ 2. Dating

_____ 3. Going Steady

_____ 4. Engagement

_____ 5. Marital Procedures and Responsibilities

_____ 6. Marriage (in general)

_____ 7. Childrearing

_____ 8. Alcohol

9. Drugs
   _____ a. Medication
   _____ b. Marijuana
   _____ c. Hard drugs

_____ 10. Picking Up Persons and Getting Picked Up by Others (e.g. the meaning of high probability places such as bars, public toilets, etc.)

_____ 11. Rape

_____ 12. Hitchhiking

_____ 13. Adult Movies and Suggestive Literature

_____ 14. Cursing

_____ 15. Nudity and Self Exposure

_____ 16. Voyeurism (window peeking)

_____ 17. Suggestibility to Dares and Outside Influence

Please list below any other areas which we may have omitted which you feel should be included in an assessment of social-sexual knowledge and attitudes.

What are your thoughts and feelings regarding the development of a Test of Social-Sexual Knowledge and Attitudes for persons who are retarded?

(OPTIONAL)

Your name _____

Number of years working with the retarded _____

Your profession _____

Thank you for your assistance

APPENDIX B

F Values for 2-Way (Sex by Residence)
Analysis of Variance on Knowledge Items

F Values for 2-Way (Sex by Residence)
Analysis of Variance on Knowledge Items

Item	F for Sex	p[a]	Higher[b]	F for Residence	p[a]	Higher[b]	F for Interaction	p[a]
				Anatomy and Terminology (N=199)				
1/38	0.215	-		9.200	.003	Community	0.938	-
1/39	0.709	-		0.709	-		0.716	-
1/41	0.275	-		4.797	.028	Community	0.126	-
1/42	0.383	-		2.314	-		3.579	-
1/43	2.624	-		0.196	-		1.396	-
1/46	0.046	-		3.313	-		3.346	-
1/47	4.628	.031	Females	4.628	.031	Community	1.216	-
1/48	0.008	-		2.630	-		6.874	.009[c]
1/49	3.755	-		0.016	-		1.578	-
1/50	18.752	.001	Females	0.130	-		4.800	.028[c]
1/51	0.660	-		0.429	-		0.929	-
1/54	3.516	-		0.302	-		4.918	.026[c]
1/55	4.525	.003	Females	1.171	-		1.183	-
				Dating (N=47)				
1/56	2.653	-		0.015	-		0.389	-
1/58	0.002	-		0.851	-		0.050	-
1/59	0.082	-		0.276	-		1.238	-
1/60	0.924	-		0.399	-		1.788	-
1/61	0.000	-		0.155	-		0.129	-
1/62	0.131	-		0.272	-		1.199	-
1/63	0.003	-		0.252	-		0.021	-
1/64	0.086	-		0.010	-		0.461	-
1/66	1.320	-		0.114	-		1.402	-
1/67	0.278	-		0.577	-		0.005	-
1/70	0.190	-		2.167	-		4.275	.042[c]
1/74	8.868	-		1.516	-		8.986	.005[c]
1/75	0.152	-		0.315	-		8.239	.006[c]
				Marriage (N=62)				
1/79	0.121	-		2.384	-		0.146	-
2/6	1.982	-		1.122	-		1.910	-
2/8	4.388	.038	Females	0.031	-		0.223	-
2/9	0.666	-		0.426	-		0.001	-
2/10	0.251	-		0.012	-		0.049	-
2/11	5.388	.022	Females	0.248	-		0.009	-
2/12	0.159	-		0.052	-		0.007	-
2/13	0.003	-		0.742	-		0.237	-
2/14	0.538	-		0.019	-		0.502	-
2/15	0.910	-		5.124	.026	Institution	0.023	-
2/16	0.080	-		6.632	.012	Institution	0.002	-

Item	F for Sex	p[a]	Higher[b]	F for Residence	p[a]	Higher[b]	F for Interaction	p[a]
				Intimacy (N=37)				
2/17	0.301	-		1.383	-		0.015	-
2/21	0.015	-		3.048	-		0.071	-
2/22	0.035	-		1.322	-		2.773	-
2/23	0.000	-		1.050	-		0.154	-
2/24	0.001	-		2.977	-		0.139	-
2/25	0.005	-		5.904	.020	Community	0.799	-
2/26	4.632	.037	Males	5.126	.029	Institution	3.853	-
2/27	4.837	.033	Males	2.849	-		2.142	-
2/28	0.783	-		0.302	-		0.107	-
2/29	0.104	-		0.399	-		0.000	-
				Intercourse (N=45)				
2/30	0.507	-		1.497	-		0.350	-
2/35	2.159	-		3.464	-		1.490	-
2/36	0.107	-		0.966	-		0.028	-
2/37	0.539	-		0.463	-		1.565	-
2/38	1.412	-		0.104	-		0.215	-
2/39	0.539	-		1.061	-		11.510	.002[c]
2/40	0.096	-		1.609	-		1.331	-
2/41	0.868	-		0.001	-		0.021	-
2/42	0.443	-		0.276	-		1.195	-
2/43	0.936	-		2.807	-		9.735	.004[c]
2/44	0.165	-		0.013	-		0.186	-
2/45	2.271	-		0.189	-		0.064	-
2/46	3.248	-		1.285	-		0.268	-
2/47	0.135	-		0.040	-		0.777	-
2/48	0.015	-		0.860	-		0.720	-
2/50	0.214	-		0.044	-		0.148	-
2/51	0.052	-		0.111	-		0.621	-
2/52	2.956	-		1.300	-		1.117	-
2/53	0.694	-		0.208	-		0.427	-
2/54	0.405	-		0.216	-		0.025	-
				Pregnancy, Childbirth and Childrearing (N=40)				
2/56	0.430	-		0.252	-		1.511	-
2/59	1.572	-		0.450	-		4.105	.048[c]
2/60	1.211	-		3.061	-		0.025	-
2/61	0.710	-		0.908	-		0.872	-
2/62	0.016	-		4.755	.034	Community	1.670	-
2/63	0.109	-		0.036	-		0.684	-
2/64	0.38	-		3.801	-		1.588	-
2/65	1.494	-		0.147	-		0.789	-
2/66	0.045	-		1.776	-		0.554	-
2/67	0.073	-		0.200	-		1.200	-
2/68	1.796	-		2.296	-		2.204	-

Item	F for Sex	p[a]	Higher[b]	F for Residence	p[a]	Higher[b]	F for Interaction	p[a]
				Pregnancy, Childbirth and Childrearing, Con't.				
2/69	3/341	-		0.286	-		0.048	-
2/70	0.236	-		0.412	-		0.052	-
2/71	0.823	-		3.803	-		2.630	-
2/72	1.577	-		0.035	-		0.673	-
2/73	0.001	-		0.066	-		0.351	-
2/74	0.489	-		1.392	-		1.336	-
2/75	0.820	-		0.641	-		0.668	-
2/76	1.378	-		1.872	-		0.118	-
2/77	0.034	-		5.979	.018	Institution	0.997	-
2/78	0.016	-		1.560	-		0.652	-
3/6	0.048	-		2.246	-		0.001	-
3/7	4.176	.046	Males	0.261	-		0.271	-
3/8	0.764	-		4.189	.045	Community	0.393	-
3/9	3.254	-		1.213	-		0.227	-
3/10	5.106	.028	Females	0.000	-		0.000	-
3/11	0.088	-		0.016	-		0.016	-
3/12	0.306	-		0.129	-		2.443	-
3/13	0.429	-		0.960	-		0.258	-
3/14	2.159	-		1.217	-		0.064	-
3/15	0.023	-		2.320	-		0.796	-
				Menstruation (N=46)				
3/16	8.791	.005	Females	0.728	-		3.573	-
3/17	67.638	.001	Females	0.003	-		0.547	-
3/19	0.670	-		3.942	-		1.544	-
3/20	3.477	-		0.403	-		0.522	-
3/21	0.849	-		1.032	-		1.667	-
3/22	9.629	.004	Females	0.292	-		0.045	-
				Masturbation (N=57)				
3/23	5.698	.019	Males	1.891	-		4.894	.029[c]
3/27	0.018	-		0.436	-		0.958	-
3/28	0.296	-		0.064	-		3.648	-
3/30	0.000	-		0.052	-		9.641	.003[c]
3/33	0.309	-		0.146	-		1.207	-
3/34	0.008	-		0.078	-		6.179	.015[c]
3/36	0.686	-		0.171	-		0.034	-
				Homosexuality (N=58)				
3/39	0.678	-		1.946	-		0.275	-
3/43	0.002	-		1.627	-		0.076	-
3/45	2.056	-		0.621	-		3.650	-
3/46	0.049	-		0.049	-		0.656	-
3/47	0.639	-		0.092	-		1.343	-
3/50	0.012	-		3.340	-		0.991	-
3/52	0.293	-		1.342	-		0.006	-
3/53	0.553	-		0.018	-		0.581	-

Item	F for Sex	p[a]	Higher[b]	F for Residence	p[a]	Higher[b]	F for Interaction	p[a]
				Alcohol and Drugs (N=56)				
3/55	0.046	-		2.168	-		1.061	-
3/57	0.662	-		0.003	-		3.684	-
3/59	3.096	-		0.095	-		1.337	-
3/63	0.176	-		1.379	-		0.442	-
3/64	0.000	-		0.018	-		1.069	-
3/65	1.842	-		0.018	-		13.101	.001[c]
3/66	0.446	-		0.002	-		0.002	-
3/67	0.285	-		0.489	-		0.567	-
3/68	0.343	-		0.020	-		0.023	-
3/70	1.390	-		3.768	-		0.734	-
3/71	2.469	-		0.039	-		0.046	-
3/72	0.593	-		0.712	-		2.719	-
3/73	0.146	-		1.159	-		3.336	-
3/74	0.670	-		0.989	-		2.715	-
3/75	0.052	-		6.202	.015	Community	0.197	-
3/76	0.027	-		0.911	-		0.101	-
3/77	0.454	-		10.386	.003	Community	0.055	-
				Community Risks and Hazards (N=54)				
3/79	0.089	-		1.132	-		0.375	-
4/6	0.767	-		2.733	-		0.548	-
4/9	0.378	-		0.172	-		1.081	-
4/10	0.243	-		7.225	.010	Community	1.962	-
4/11	3.343	-		1.520	-		0.149	-
4/12	0.220	-		3.596	-		0.000	-
4/13	0.803	-		0.199	-		1.328	-
4/14	0.022	-		0.487	-		1.888	-
4/15	0.158	-		0.487	-		0.765	-
4/16	0.012	-		0.005	-		2.470	-
4/17	0.017	-		0.197	-		1.496	-
4/18	0.367	-		0.668	-		4.200	.043[d]
4/19	1.426	-	-	2.028	-		0.151	-
4/20	0.161	-		0.253	-		0.059	-
4/21	2.237	-		0.102	-		0.914	-
4/22*	192.274	.001	Males	1.300	-		2.042	-
4/23	0.021	-		0.469	-		0.015	-
4/24	0.050	-		2.758	-		0.895	-
4/25	2.046	-		0.312	-		0.198	-
4/26	0.098	-		0.001	-		0.413	-
4/27	1.894	-		0.001	-		0.503	-
4/28	1.105	-		0.126	-		3.156	-
				Birth Control (N=56)				
4/29	8.060	.006	Females	0.281	-		0.333	-
4/31	2.128	-		0.001	-		0.017	-
4/32	1.310	-		4.144	.044	Community	0.193	-

* Not administered to females.

Item	F for Sex	p[a]	Higher[b]	F for Residence	p[a]	Higher[b]	F for Interaction	p[a]
				Birth Control, Con't.				
4/33	2.018	-		1.047	-		0.036	-
4/34	0.496	-		0.151	-		0.000	-
4/35	0.263	-		0.930	-		0.616	-
4/36	28.651	.001	Females	0.090	-		1.560	-
4/37	2.718	-		0.138	-		0.137	-
4/38	1.902	-		0.003	-		2.924	-
4/39	5.636	.020	Females	0.630	-		0.000	-
4/40	9.667	.003	Females	2.733	-		7.667	.008[c]
4/41	6.989	.010	Females	1.126	-		0.140	-
4/42	0.626	-		0.817	-		0.000	-
4/43	2.144	-		2.377	-		2.703	-
4/44	0.112	-		0.246	-		0.178	-
4/45	0.283	-		0.050	-		0.020	-
4/46	0.004	-		1.842	-		1.348	-
4/47	6.999	.010	Females	7.890	.007	Community	0.056	-
4/48	0.891	-	Females	2.335	-		0.230	-
4/49	2.601	-		0.084	-		1.113	-
4/50	0.211	-		0.291	-		2.489	-
4/51	3.478	-		0.201	-		0.281	-
4/52	0.001	-		5.911	.018	Community	0.310	-
				Venereal Disease (N=44)				
4/53	0.661	-		0.410	-		1.429	-
4/55	6.908	.012	Females	0.129	-		0.117	-
4/56	5.097	.028	Males	0.095	-		0.154	-
4/57	0.361	-		3.853	-		0.826	-
4/58	1.909	-		1.007	-		0.067	-
4/59	3.199	-		0.455	-		1.303	-
4/60	0.204	-		4.885	.031	Community	1.228	-
4/61	0.127	-		0.408	-		2.117	-
4/62	0.223	-		1.593	-		2.524	-
4/63	0.021	-		2.501	-		3.129	-
4/64	0.000	-		0.095	-		5.748	.020[c]
4/65	1.318	-		0.019	-		1.352	-
				Terminology Check (N=199)				
4/66	4.901	.026	Males	0.619	-		0.046	-
4/67	0.428	-		2.372	-		1.265	-
4/68	7.591	.007	Males	0.444	-		0.005	-
4/69	5.232	.022	Females	3.537	-		2.195	-
4/70	0.462	-		4.516	.033	Community	0.154	-
4/71	0.004	-		15.650	.001	Community	1.875	-
4/72	1.121	-		0.247	-		0.612	-
4/73	0.415	-		0.415	-		0.007	-
4/74	6.274	.013	Females	17.977	.001	Community	1.260	-
4/75	8.663	.004	Females	10.906	.002	Community	0.426	-
4/76	0.791	-		8.915	.004	Community	1.483	-

[a]Where $p < .05$
[b]Direction of difference; group which scored significantly higher
[c]Institutional females significantly higher than Community Females; Community Males significantly higher than Institutional Males.
[d]Community females significantly higher than Institutional Females; Institutional Males significantly higher than Community Males.